THE ELEMENTARY SCHOOL JOURNAL

VOLUME XXIV NOVEMBER, 1923 NUMBER 3

Educational News and Editorial Comment

PUPILS' READING CIRCLE IN ILLINOIS

It has long been recognized that graded readers do not supply a sufficient amount of good reading material for the children of the elementary school. The need for a larger and more varied body of reading matter is being met in most city schools by supplementary readers and classroom libraries. Public libraries also furnish to schools selected sets of readers and to individual children suitable books for out-of-school reading. There are many schools, however, especially in small towns and rural districts, which have not secured additional reading matter by either of these methods. Supplementary materials are so meager in these isolated schools that pupils have practically no opportunity to develop habits of rapid silent reading and a taste for good books.

A state-wide effort to meet the deficiency can be illustrated by the activities of a very successful organization in Illinois. The Illinois Pupils' Reading Circle was organized in 1888 and is under the control of the Illinois State Teachers' Association. It offers an excellent solution for the out-of-school reading problem in any school system but especially in schools which have little supplementary material. During the year 1922-23, the Illinois schools

purchased through the State Reading Circle Board 43,472 volumes of reading-circle books.

For 1923-24 the complete set consists of twenty-eight books carefully graded for Grades I to VIII. The sets are sold for $24.50 to school boards, libraries, or individual teachers. When a child has read four of the books, he is given an attractive diploma, and for each four books thereafter, until he has read a total of twenty, he receives a gold seal to add to the diploma. It is hoped that by the time the twenty books have been completed the reading habit will be well established and that the child will have formed a taste for good reading material.

The stimulus of the pupils' reading circle, even in a city which supplies adequate reading material for its schools and which maintains a good public library with a department for children, is illustrated in Lincoln, Illinois, in the report of Superintendent Nickols, who is the manager of the State Reading Circle Board.

> According to indications in the public library at Lincoln, the entire juvenile population is forming the reading habit. The last census showed 1,300 children below the high school attending the grades. The city librarian has a register of child readers that is less than two years old, and it contains 1,600 names. What accounts for it? The librarian says that she has noticed a great difference in the number of juvenile readers since classroom libraries were put into the Lincoln grade schools; and an active effort has been made on the part of the teachers to get children interested in reading out of school. . . . . More boys of twelve to eighteen years are reading than have come to the library in years. Many of these are children of foreign-born parents. They come for some of the reading circle books and many others.

RECREATIONAL READING FOR BOY SCOUTS

The following statement is issued from the headquarters of the Boy Scouts of America:

> The Boy Scout organization is engaged in an interesting adventure, which involves nothing less than the charting of the literary affections of youthful America. In developing their case, Boy Scout executives must necessarily conduct their inquiry along lines that have long interested educators but on which teachers have been unable to embark except in a limited way because of a lack of resources and facilities.
>
> The relation between recreational reading and education is a subject on which there is little specific information at hand. Recreational reading has, of course, very direct educational influences. What those influences are it is

impossible to determine until there is information at hand concerning the types of reading to which various constituents are devoted.

In the case of the boy, the recreational reading problem is a puzzling one. What do boys read? When do they read? What type of material suits them best? Do they read books or do they read magazines? Has the reading of the boy been in any way affected by the recent marvelous development in the magazine field? Is the boy turning from the books primarily designed for him to magazines gotten up specifically for adult consumption?

These are some of the questions to which the Boy Scouts must find an answer, particularly since it is their object to establish *Boys' Life*, the Scout publication, as a boys' magazine that boys will actually read. A fund of $100,000 has been secured to be used in the promotion of the magazine type of juvenile fiction.

It is hardly necessary to make an extended argument for the purpose of proving that magazine fiction designed primarily for adults is not necessarily the sort of recreational reading best suited for the boy. Indeed, the presumption would naturally run in the opposite direction.

The purpose of the $100,000 fund secured by the Boy Scout organization is to make possible the publication of a boys' magazine that boys will read eagerly. Boy Scout executives understand that you can lead the boy to the magazine but you cannot make him like it. Unless boys take a fancy to the publications produced for them, the effort put forth in their behalf is wholly wasted. It is necessary, therefore, for Boy Scout executives to ascertain, in one way or another, what sort of thing in the recreational reading line boys want and how best it can be presented in a form that makes it worth while for them to have it.

In stating the position of the Boy Scout organization, Chief Scout Executive James E. West recently said:

"The time has gone when writing for boys can be mere hack writing. The modern boy spots things worth while instinctively. A perfectly obvious step in connection with the development of a magazine for boys is to secure for it writing talent in every way equal to the talent that serves magazines designed primarily for grown-ups. We propose to secure that type of talent for *Boys' Life*, the magazine published by the Boy Scout organization.

"The expenditure of the $100,000 fund at our disposal will, as far as a portion of the general public is concerned, represent an experiment. We do not regard it as such. We prefer the view that the expenditure of this fund represents an opportunity—an opportunity to recognize the fact that boys' tastes in reading are basically sound, that the subjects that interest them in one generation may not interest them in the next, and that it is obligatory for those who would be leaders among boys to evolve a writing output that will be safe from the standpoint of the grown-up and interesting—intensely interesting—from the standpoint of the boy himself.

"Writing for boys is an occupation that properly challenges the guidance of the entire writing fraternity.

"Since boys are turning more and more to the magazine for their recreational reading, there should be a real boys' magazine for them toward which to turn."

MEN AND WOMEN TEACHERS

Professor Stevenson, of the Ohio State University, has compiled statistics from the reports of the state commissioner of public instruction of Ohio showing the absolute and relative number of men and women teachers in that state from 1854 to 1921. In 1854, there were in the elementary schools 7,469 men and 6,413 women, or 54 per cent and 46 per cent, respectively. In 1921, there were 3,318 men and 23,317 women, or 12 per cent and 88 per cent, respectively.

The situation in the high schools of the state shows a greater persistence of men. In 1854, 53 per cent were men, and 47 per cent were women. In 1921, 37 per cent were men, and 63 per cent were women.

By way of summary, Professor Stevenson asks why it is that the elementary school has been less successful than the high school in retaining men teachers and offers the following statements as an answer to his question.

There are at least two reasons for this condition, the lack of prestige in the elementary-teaching positions and the low salaries offered for elementary teachers. Many cities are coming to realize the condition and are offering more inducements to men to enter the elementary schools. As a result, these schools are getting more and better class men into their systems. The offerings of business and the professions, however, are tempting many of our men away even from the high school, for we note that the number of men in the high schools has not increased as rapidly during the past few years as it did previous to that time.

The data certainly seem to indicate that the proportion of men in the schools today is becoming constantly less and that, unless it is desirable that our schools be taught entirely by women, some steps must be taken to bring about an immediate change in the trend. This is true to a greater extent in the elementary than in the high school, bu even in the high school the danger is becoming apparent.

NEW PLAN OF CERTIFICATING TEACHERS IN RHODE ISLAND

Professor Charles Carroll, of the Rhode Island State College, supplies the following statement of the effort which is being made

in Rhode Island to stimulate a higher professional spirit among teachers and to give a higher professional standing to those who will qualify by study and experience for advanced positions in the system.

The Rhode Island State Board of Education, as part of the new classification of teachers' certificates, has issued life professional certificates to forty-five teachers, based on recognition of professional improvement and professional achievement in service. The new life certificate, following the analogy of the advanced type of collegiate degree, designates the recipient as a master-teacher. The phraseology of the certificate indicates the principle in the new certificate as follows:

"This certifies that ———, having been accredited with the qualifications of the established professional standard and having served with distinction for the requisite period in public education and having attained honorable advancement in professional study and practice, has been adjudged by the State Board of Education worthy of honor in public service with recognition as a master-teacher and is therefore authorized and commissioned to serve for life as teacher in the public schools of Rhode Island unless this certificate be annulled for cause. In testimony whereof the Governor as President and the Commissioner of Education as Secretary of the Board have hereunto set their hands and caused to be attached hereunto the seal of the Board."

The certificate is ornamented with an engraving showing the state capitol and is signed by the governor and the commissioner of education. It is sealed in gold with the great seal of the state board of education.

Beginning August, 1920, the old classification of certificates by grades was discontinued, and a new classification of certificates as professional or provisional was instituted. Professional certificates are issued to graduates of state normal schools and to graduates of colleges who, in addition to receiving a collegiate degree, complete 216 hours of approved professional courses in education. Provisional certificates are issued to persons with less than professional qualifications; holders of provisional certificates are assumed to be preparing for professional rating and are required to show progress by completion of approved courses or successful examination annually as a condition precedent to renewal.

The new life certificate aims to make the professional teacher follow a plan for professional improvement in service. For promotion into the life professional class the professional teacher must earn a minimum of twenty credits. Credits are allowed for (1) accredited service; one year, one credit; three credits required; not more than five allowed; (2) approved course in summer school, one credit; four credits required; (3) educational meeting, one-fifth credit; two credits required; credit allowed only for meetings including two half-day or evening sessions; (4) approved extension service, one credit; four credits required; this requirement may be met by attendance on summer

courses; (5) study of professional books, one-tenth credit; one credit required; (6) reading an educational periodical one year, one-fifth credit; one credit required; (7) distinguished service, productive research, authorship, or other special educational activity, due credit.

The main object is to give just recognition to professional advancement in service. Only extension and summer-school courses relating to the principles and practice of education and academic courses in the subjects and arts taught by the candidate are approved for credit.

ALTRUISM AND ENLIGHTENED SELF-INTEREST

The Metropolitan Life Insurance Company has issued a pamphlet, entitled "52,000 Lives Saved in 1922," in which it describes the activities which it has found desirable to carry on in the interests of its policyholders and incidentally in the interests of its own business. A few paragraphs may be quoted from this booklet as encouragement to school people to join in the campaign for the better understanding of health on the part of pupils.

Each week, 15,500 Metropolitan agents visit the homes of the holders of 21,500,000 industrial policies to collect insurance premiums.

Fourteen years ago the company saw in these visits an opportunity to instruct its policyholders in laws of health and hygiene and began to show its agents the privilege this opportunity afforded for rendering unique service. It placed in their hands for free distribution booklets and circulars on the care of the child, personal hygiene, cooking, prevalent diseases, etc., and organized a free visiting-nurse service to give bedside care to sick industrial policyholders and to group certificate holders.

The booklets and circulars, distributed without charge by the company, are written in an interesting style. Great care is taken to select simple, easily understood words. Some of them are published in several languages. The authors are recognized authorities on the subjects about which they write.

During 1922, 33,322,161 pieces of this literature were distributed to policyholders, health officers, schools, and social agencies, bringing the total distributed to date up to 272,199,667.

Clean-up campaigns are conducted to make cities and towns healthier and more attractive places in which to live. They include thorough housecleaning, collection of refuse and litter from streets and vacant lots, and the elimination of disease-breeding spots.

The company co-operated in 440 such campaigns in 1922 and offered a $5 gold piece to school children in many cities for the best essay and poster on "Why Our City Should Have a Clean-up Campaign."

A SEAT FOR EACH PUPIL

It is a well-established belief in the minds of Americans that there must be a seat in school for each child of school age. This belief had its origin in the days when pupils sat in seats during all of the school hours and studied or practiced handwriting or did something else which required desks and seats directly behind them. In the days when this devotion to seats was in process of establishment it was thought to be no part of the school's business to provide swimming pools or shops or science laboratories. In those days school excursions were rare, and movement around the room on the part of the pupils was an offense against school organization.

The established belief is well expressed in an article which was published in *Collier's Weekly*. The following is an extract from this article:

> In at least three hundred of our largest cities and towns there are not seats enough in the schools for the children who want to get in. That flat statement comes from the school superintendents themselves in answer to a questionnaire sent by Collier's to the superintendent in every city and town with a population of 5,000 or more. There are 1,467 cities and towns of over 5,000. Responses have been received by Collier's from over 1,000 of them, and they are still coming in.
>
> In the cities which Collier's questionnaire has found out, more than half a million children this year will fail to get their "equal chance" at an American education. And if Collier's, with replies from 1,000 places, found that many, how many more must there be in the whole country?
>
> The questionnaire deals with only 55 per cent of our public-school children—those in cities and towns; conditions among 45 per cent, those who attend rural schools, were not involved. The query extended only to where public-school education is supposed to be at its best.
>
> Shortage of seats is only one aspect of inefficiency. Others are underpaid teachers, overcrowding, basement rooms, overlarge classes, antique and unsanitary buildings.
>
> But the questionnaire stuck to seats. The missing seat in a schoolroom tells the whole story; where it exists, all the other evils are likely to exist.
>
> That missing seat! In the little town of Burlington, New Jersey, H. H. Smith, superintendent of schools, pencils the following on the edge of the questionnaire:
>
> "Bear in mind that when there is only one seat for two pupils, two pupils must be on part time."

I applied that formula to Mr. Smith's return: 2,300 pupils and 2,050 seats. Burlington is 250 seats short; that means that 500 Burlington school children must attend school on part time. Almost 20 per cent of the children in that little town must go on part time.

This formula shows the tragedy of the missing seat to an amazing extent. Multiplied instances would only emphasize the same thing.

It is certainly gratifying to have the support of Collier's in a campaign for more equipment in the public schools. It is, however, hazardous to accept such support if it is going to result in overemphasis on the demand for a seat for each pupil. The fact is that exclusive seats are by no means necessary in the modern school. The school of today has much more to offer pupils than an opportunity to sit down. The well-equipped school needs a kitchen for domestic science, a laboratory for elementary science, a gymnasium, an auditorium, and some shops. It is much more important that the school have these newer facilities than a seat for each child.

Crowded schools need to have their equipment enlarged, but not alone in seats. Parents need to know that there is no objection to putting two children in a single seat, provided that there are other places for these two children to learn during half a day each. The child who is in a well-equipped modern school is not deprived of anything that he really needs when he is not required to sit in a seat all day.

A SCHOOL-BUILDING SURVEY

The city of Ottawa, Kansas, invited the Bureau of School Service of the University of Kansas to prepare a plan for the building of the new schoolhouses which the school system of that city needs. The results of the bureau's work are published in a bulletin of sixty-three pages.

The bulletin describes the distribution of the city's population and the probable directions in which growth will take place. There are maps showing the geographical distribution of pupils around each school center. The erection of new schools of specified sizes is recommended. The financial considerations are fully canvassed, and details are supplied to justify the plans submitted.

The bulletin summarizes as follows the findings and recommendations of the Bureau of School Service with regard to the new buildings required and with regard to the financial provisions:

1. The city of Ottawa should proceed at once to construct a junior high school building of the modern type to accommodate approximately 600 pupils in the seventh, eighth, and ninth school years.

2. To secure the greatest economy and efficiency in the functioning of such a school it should be located closely adjoining the present senior high school structure.

3. A twenty-unit building, providing adequately for academic instruction, also the shops needed for vocational tryout courses or educational handwork as well as for physical education, music, art, and directed study, is recommended.

4. The building should be of the flexible type, provide for future extension, and meet educational standards first of all.

5. It is recommended that the junior and senior high schools share the use of the present auditorium, the woodwork equipment, the typewriting and mechanical-drawing facilities, the agriculture shops, and certain other provisions to avoid unnecessary duplication.

6. The withdrawal of the ninth grade from the senior high school organization will relieve the present crowding and congestion and also make possible certain desirable activities now neglected or poorly cared for, including a lunchroom, girls' rest room, a teachers' room, a suitable principal's office, and a student organization room.

7. The growth in high-school population is dependent on three factors; (1) the city's population is growing at an average of more than 10 per cent in a ten-year period; (2) better high-school facilities may operate to increase the number of tuition students by perhaps 50 per cent of their present number; (3) a desirable reduction in the high-school mortality rate will be promptly felt in the high-school enrolment.

8. The students who fail in high-school subjects comprise nearly 60 per cent of the total. Only 30 per cent of the Freshmen finally graduate. All types of pupils seem to share in these high-school failures, 61 per cent of which are charged to the two subjects of English and mathematics. The evidence indicates poor school adjustments more than it does inferior pupils as responsible for such a record in failures and drop-outs.

9. By securing better adjustment of courses, subjects, and methods of instruction to the needs of the pupils, the senior high school enrolment may easily be increased by this means, along with other smaller additions, to at least 450 within five years. A publicly supported high school should not fail to meet such just demands.

10. The second item in the city's school-building program should be at least a ten-room elementary-school building with gymnasium and assembly room to replace the Hawthorne building.

11. The third element in the building program should be a ten- or twelve-room modern elementary school to replace the Field building, but on a larger site.

12. The enlargement of both the Lincoln and the Garfield schools should be regarded as necessary in the future to meet actual needs. It is probable that Garfield may need two additional rooms in the near future.

1. Education is by the constitution a state function with certain powers and duties delegated to local boards of education.

2. At present the best basis for a study of the finances of a school district is by comparison with other cities of similar size and character of population.

3. The facts for thirty-two such cities ranging in population between 4,000 and 20,000 are used in this survey.

4. Ottawa is, comparatively speaking, a typical city in wealth, as able to support education adequately as the majority of American cities of 4,000 and over.

5. Ottawa's education problem is typical of Kansas cities of similar size.

6. Ottawa's wealth is increasing substantially year by year and also its ability to support education.

7. The per capita cost of education in Ottawa is lower than in the majority of Kansas cities of her size.

8. The relative proportion expended on instruction is high, indicating that the money is wisely expended.

9. The Ottawa school accounting system is a splendid example of modern business methods in the administration of public education.

10. Ottawa's tax levies, both total and school, are relatively low as compared with other Kansas cities.

11. The school indebtedness is very low while the municipal indebtedness is high, indicating a greater liberality in municipal matters than in educational equipment.

12. The board has followed for many years a wise policy in retiring school bonds.

13. The serial bond is strongly recommended for Ottawa for the financing of future buildings.

14. Ottawa is able to finance the proposed program without adding unduly to the burden of its taxpayers.

15. The committee recommends the adoption by the board of the school-building program required for accomplishing its program of education.

16. An architect should be employed to embody the plan of each project in preliminary sketch form and make estimates of the cost of each before the district is asked to vote the necessary bonds so that the program and its cost may be clear to all voters.

There are several good examples of building programs carefully worked out by educational experts now available. Programs should be prepared for every school system. They should be detailed, like the Ottawa plan. They should be comprehensive and forward-looking. Above all, they should be put in a form which will make it possible for the intelligent lay public to understand why new buildings are needed and how they should be distributed and equipped in order to serve effectively the best interests of the city.

FORMAL GRAMMAR

There is no subject taught in the upper grades of the elementary school about which one can find more variety of opinion than grammar. The increasingly general tendency seems to be one of curtailment of instruction in this subject with emphasis on sentence structure rather than on formal definitions and rules.

It is of interest to know that problems like those which are under discussion in American schools are being considered in England. The following news item is quoted from a recent issue of the *London Times Educational Supplement.*

> At the request of the National Union of Women Teachers, Professor Jespersen delivered a lecture at King's College last week on "Pure Grammar," with Dr. Ballard in the chair. To meet the great demand for tickets, he repeated the lecture last Tuesday, when the chair was taken by Sir Robert Blair. At the former meeting Dr. Ballard introduced the lecturer as the greatest living grammarian, a philosopher in language. His influence, Dr. Ballard said, had been felt by the Departmental Committee which had issued the report on "The Teaching of English in England." A large part of the lecture, however, consisted of destructive criticism of the committee's recommendation of the teaching of "pure grammar, a grammar of function, not of form," and of the further recommendation that "the terminology employed should be that common to all languages—i.e., that recommended in the report of the Joint Committee on Grammatical Terminology."
>
> Of the recommendation that "the teaching should be closely allied to phonetics," Professor Jespersen expressed strong approval, provided, he said, that it was not pure phonetics, which would be dry and abstract, but phonetics applied to the received pronunciation of the child's own language. This would be far more interesting than spelling, for sounds were more vital than letters; it would lead to clear enunciation and pave the way for elocution; and it could, and should, be taught inductively, even to small children, who

in voyages of discovery would distinguish vowels and consonants and co-operate in building up a scheme of sounds.

The committee, Professor Jespersen said, had thrown out vague hints about subject and predicate and parts of speech. Teaching the parts of speech would, he feared, lead to definitions which would be neither true nor exhaustive. Children should learn about words by experience and not by definition. As for "the pure grammar of function," there was no universal grammar common to all mankind, nor any grammar of function which could be taught apart from morphology—the grammar of forms and the order of words. The same form often had different functions, and the same function often had different forms. If, again, one turned from the formal and syntactic categories and had regard to notional categories based on the inner meaning, the same difficulty arose. The meanings of the imperative, for instance, included requests, demands, orders, and even conditions in such sentences as, "Use every man after his desert, and who should 'scape whipping." In German, Latin, and Greek there was no exact correspondence between gender and sex. Nor was there any correspondence between tenses and time, the present tense being used to denote past events, as in "says he"; and future events as in "I start to-morrow"; and the past tense referring to present time in "I wish I had some money," and to future time in "It's time he went to bed." Pure grammar in fact was poor grammar, abstract and lifeless.

To apply the terminology of inflected languages to modern English was absurd; to speak of five cases in modern English was a gross falsification of scientific facts, and to use such a terminology for the benefit of the few who would subsequently learn Latin was a needless anticipation of difficulties under much more difficult circumstances. Englishmen should rejoice in the simple structure of their language and be proud of possessing the finest language in the world for the expression of thought and feeling.

In contrast to the abstractions and truisms of "pure grammar," Professor Jespersen gave some valuable suggestions for teaching concrete English grammar by the inductive method, with the help of phonetics and with vistas of the psychology of speech. Children could be shown, for instance, a distinction which pervaded the whole field of language, namely, that between invariable formulas such as "How do you do?" and free expressions which admitted of variations and of the exercise of each speaker's creative activity for stylistic purposes. The way in which English had developed a simpler system could be illustrated in the formation of plurals, for it was only the commonest of words which had irregular plurals, while the old forms for other words had been forgotten. In conclusion, Professor Jespersen claimed that the grammar which he advocated might not be universal and pure but was real and living and lifted the cloud of depression which had darkened instruction for so many generations of children.

UNIFIED KINDERGARTEN AND FIRST-GRADE TEACHING. III[1]

S. C. PARKER AND ALICE TEMPLE
University of Chicago

SECTION II. SOCIAL AND PSYCHOLOGICAL OBJECTIVES IN THE UNIFIED PROGRAM

1. INTRODUCTION

Aims, purposes, objectives.—In our preceding discussion we have made frequent reference to the aims and purposes of the kindergarten and the first grade as these had developed historically. In this section we shall present an organized view of these purposes. Since the term "objectives" has come into common use recently among educators and sometimes seems to be a better term for focusing attention on the specific ends or purposes toward which education is directed, we have entitled the section "Social and Psychological Objectives in the Unified Program."

Two tendencies in defining objectives: social and psychological.—Broadly speaking, we found a striking contrast between the old-fashioned primary school and the kindergarten in their efforts to define the objectives of education. On the one hand, the primary schools were established to meet certain easily recognized needs in social life—particularly the needs for skill in reading, writing, and arithmetic as essential social tools in business, religious, or civic affairs. On the other hand, the kindergarten movement, following the leadership of Rousseau, focused its attention, not on "what it is important for men to know," but on "what children are able to apprehend." Hence Rousseau denounced the practices of the primary schools in the following scathing terms:

> What must we think, then, of that barbarous education which sacrifices the present to an uncertain future, which loads a child with chains of every sort, and begins by making him miserable in order to prepare for him, long in

[1] This is the third of a series of articles on this topic. The series will be reprinted and sold in pamphlet form by the Department of Education, University of Chicago.

advance, some pretended happiness which it is probable he will never enjoy? Were I even to assume that education to be reasonable in its object, how could we witness, without indignation, these poor unfortunates subject to an unsupportable yoke, and condemned, like galley slaves, to never-ending toil, without any assurance that such sacrifices will ever be useful to them? The age of mirth is passed in the midst of tears, chastisements, threats, and slavery.

O men, be humane; it is your foremost duty. Be humane to all classes and to all ages, to everything not foreign to mankind. What wisdom is there for you outside of humanity? *Love childhood; encourage its sports, its pleasures, its amiable instincts.*[1]

Nature would have children be children before being men. If we wish to pervert this order, we shall produce precocious fruits which will have neither maturity nor flavor, and will speedily deteriorate: we shall have young doctors and old children. Childhood has its own way of seeing, thinking, and feeling, and nothing is more foolish than to substitute our own for them.[2]

Social and psychological objectives not incompatible.—Since Rousseau wrote this rebuke, however, progressive primary schools have so modified their methods of teaching the essential social skills that the learning of the latter is perfectly in accord with childhood's "sports, its pleasures, its amiable instincts." This is particularly true of the teaching of reading which, as we indicated before, Rousseau called "the scourge of infancy" but which we now find to be a pleasant road to the fascinating world of children's books. In fact, it can be shown that almost every feature of social life for which it is necessary to prepare children corresponds to certain strong interests which they possess by nature. Hence, by psychologizing our instruction so as to utilize these instinctive interests of children, we are able to harmonize the social objectives of the old-fashioned primary school and the psychological objectives which were emphasized by the Rousseau movement.

Formula of social and psychological objectives.—In recent years there have been published numerous excellent formulas to aid teachers in thinking clearly about the major objectives of education. Most of these formulas are derived from fundamental analyses of human needs, wants, and activities that have been made by such great sociologists as Herbert Spencer (1820-1903) and by equally notable psychologists and philosophers. For our purposes we may

[1] J. J. Rousseau, *Émile*, pp. 44–45. New York: D. Appleton & Co., 1893.
[2] *Ibid.*, p. 121.

use the following formula which is derived in part from Spencer and in part from Professor E. L. Thorndike.

Broad Social Objectives	Detailed Psychological Objectives
1. Good health	1. Ideas, knowledge, information
2. Harmless enjoyment of leisure	2. Skills, habits
3. Good-will	3. Worthy ideals
4. Social service	4. Many-sided abiding interests
a) Business service	
b) Home service	
c) Civic service	
d) Philanthropic service	

To most readers the importance of many of these objectives will be quite obvious. However, it may not be amiss to comment briefly on several of them and to emphasize especially the importance of certain ones, such as the value of ideas, knowledge, and information.

2. BROAD SOCIAL OBJECTIVES

Inclusive aim: increasing the happiness of the multitudes.—In determining the broad social objectives for our unified kindergarten and first-grade program, we shall first assume that the one inclusive purpose which seems to dominate modern improvements in democratic, American elementary education is the desire to increase the happiness of the multitudes. This purpose appears, not only in the larger educational movements such as legislation for the special educational care of all classes of children according to their peculiar needs, but also in the detailed care that is taken with children of all ages to provide for their special needs. This care is bestowed on rich and poor, stupid and bright, industrious and lazy, with a view to improving each individual as far as it may prove profitable in increasing the happiness of the multitudes of individuals who are directly or indirectly affected by such training.

Main factors in increased happiness.—If now we proceed to determine the factors that loom large in increasing the happiness of the multitudes, we secure the broader social objectives that are included in the formula given, namely, good health, harmless enjoyment of leisure, good-will, and social service.

(1) *Good health.*—The importance of good health as a factor in increasing happiness and decreasing misery is so obvious as to

need little comment. People everywhere strive for it; suffering and distress result from lack of it; science devotes millions of dollars to studying it; humanitarian organizations, such as the Red Cross, minister to it throughout the world; and now progressive primary schools make provisions for medical inspection, for careful quarantining, for school nurses, for the special treatment of undernourished and tubercular children, and for the systematic training of all children in health knowledge and health habits.

(2) *Harmless enjoyment of leisure.*—The enjoyment of leisure has always been esteemed, particularly by the noble, wealthy, and cultured classes, as among the chief factors in happiness. Thus, one of the greatest of the Greek philosophers said that the aim of a liberal education is the beautiful enjoyment of leisure time. When we note the great labors that have been devoted throughout history to the development of beautiful works of art, music, literature, etc., which are enjoyed by millions of people in their leisure hours, we see further evidence of the part played by these leisure pursuits in increasing happiness. Formerly, such forms of enjoyment were frequently restricted in large measure to the noble, wealthy, scholarly, and professional classes, although the poorer classes always had some share in the folk-games, the beautiful church services, the singing societies, etc. In recent years the increased leisure that has been secured by organized labor through shorter working hours and the improved economic conditions resulting from higher wages have made the enjoyment of leisure a large factor in the happiness of ordinary workers. The primary schools are recognizing the need for training for the enriched enjoyment of this leisure in harmless ways by organizing better training in reading, music, plays and games, the enjoyment of pictures, etc.

(3) *Good-will.*—The need of good-will as a factor in increasing the happiness of the multitudes has always been emphasized by great religious and moral leaders. One of the highest expressions of this need is found in the Golden Rule and the emphasis on its applications through love and charity. While good health and the harmless enjoyment of leisure are clearly fundamental factors in individual and group happiness, if each individual or group

strove for these regardless of the happiness of others, it is clear that a general increase in human happiness would not result. Consequently, we find our primary schools placing more and more emphasis on teaching children an understanding of the intricate interdependence of individuals and groups which is found in our complicated modern society and on developing proper ideals of co-operation and consideration for the rights and happiness of others as means of increasing the sum total of human happiness in which each well-behaved individual may share.

(4) *Social service.*—The part played by social service in increasing human happiness was brought home strongly to Americans during the world war. At that time practically everyone was engaged in some form of "service" which was clearly related in the minds of most persons to the general struggle for human happiness represented in the war. It was realized that such social service was being rendered not only by those directly engaged in war operations, but also by miners, lumbermen, automobile manufacturers, clerks, school teachers, etc. In times of peace, we often fail to realize that practically all workers are rendering social service when they are engaged in producing or distributing something that contributes to meeting the wants of society. Thus the inventors and the manufacturers of agricultural machinery contribute enormously to the meeting of society's need for food by making it possible to plant, cultivate, and harvest vast stores of food with little expenditure of human energy. Similarly, the inventors, manufacturers, sellers, and operators of radio apparatus contribute greatly to the increase of human happiness through the increased harmless enjoyment of leisure time which they afford. It is important to realize that such purely business services are among the most important forms of social service even though they be motivated largely by the desire for private profit. When this is realized, we see more clearly the need for including both good-will and social service in our formula of broad social objectives of the elementary school. Our examples of social service—namely, the manufacture of agricultural machinery and radio activities—have been from but one of our divisions of social service, that is, business service. The reader can readily extend the illustrations so as to

include the three other forms of social service given in the formula, namely, home service, civic service, and philanthropic service, and can probably add certain other forms of social service which are not included under the four broad subdivisions that we have named. It is also an easy matter to show that the essential social skills which the primary schools have emphasized are important tools in rendering social service and that the social understanding and social habits emphasized by progressive unified programs for the kindergarten and the first grade provide additional direct training for attaining this important social objective of education.

3. DETAILED PSYCHOLOGICAL OBJECTIVES

Relation to social objectives.—After we have determined the major social objectives, such as good health, social service, etc., for which the schools should strive in order to increase the sum total of human happiness, we may turn our attention to the detailed psychological products and characteristics which are to be developed in each pupil in order to attain the broader social objectives. Following Thorndike, we have classified these as (1) ideas, knowledge, information, (2) skills, habits, (3) worthy ideals, (4) many-sided abiding interests. We shall discuss each of these in turn, giving special emphasis to the first because of the inadequate attention that it has received in primary education.

(1) *Ideas, knowledge, information. Of immense social value in civilized life.*—The social value of ideas, knowledge, and information is often overlooked by superficial or prejudiced educators who wax enthusiastic over the "development of character" or some other slogan but maintain that specific ideas, knowledge, and information are not important in education. Yet it is easy to prove that in all forms of social service—business, home, or civic—reliable technical information is absolutely necessary for efficiency. The farmer, the banker, the successful merchant, the civil engineer, the architect, the housekeeper, the nurse, the doctor, all need precise correct ideas, knowledge, and information in order to avoid failure and to render efficient service. In matters of health, the appalling loss of life from preventable diseases, such as tuberculosis, and the widespread distress from improper feeding are striking

examples of the supreme value and need of education which emphasizes reliable scientific information. "Knowledge is power," said Bacon; and while this statement is only partially true, knowledge coupled with skill in execution gives the power that is bringing the remarkable improvements in modern civilized life which greatly increase the happiness of the multitudes.

Pupil needs and possibilities. Frequently neglected or tabooed in lower grades.—When we turn our attention to the kindergarten and the first grade, we find that the possibilities of enriching the pupils' lives there, through new ideas, knowledge, and information, have frequently been neglected or positively tabooed. Thus the old-fashioned first grade emphasized the social skills but left out almost entirely information about social life and nature, while many idealistic kindergartners have definitely maintained that the information which kindergarten pupils acquire is of no importance so long as they are enjoying themselves and are being given practice in thinking, expression, etc.

Children have large possibilities of increased knowledge.—When we turn to the practical and scientific facts, however, we see that specific ideas, knowledge, and information may play a large part in the education of children from five to seven years of age and that one of the greatest differences in the same well-educated child at five and at seven is in the knowledge which he possesses. Such a favored child, enriched by his experiences with a cultured and educative environment, makes a wonderful growth in knowledge during these years. Yet even with the most favorable circumstances, new possibilities of enriching and clarifying his ideas of social life and nature are continually present.

Rich child ignorant of "make a living."—For example, in a first grade that contained principally pupils from wealthy and cultured homes, many of the children had no idea of the meaning of the phrase "make a living" when they encountered it in the story of the three little pigs whose mother sent them out into the world to make their livings. The teacher tried to clarify the meaning by some questions about how the children's fathers made their livings. She then asked one bright little girl what she would do if she was sent out to make her living, how she would get her food,

etc. The child said that she would go to the grocery and buy some food. "But," said the teacher, "how could you do that if you had no money?" "I would give them a check," replied the youngster.

Poor children ignorant of "dining-room," etc.—At the opposite extreme we have the following example, described by Miss Elizabeth Walker, of the lack of knowledge of common domestic matters.

> This lack became evident to me when attempting to conduct a course in community life for the kindergarten in a foreign district. I became very much perplexed and discouraged over the results of my efforts to gain interest and spontaneous work on the part of the children. In spite of everything I could do they showed marked bewilderment and listlessness when working on a house. They acted as though they had never heard of the commonest kind of things, and one child actually couldn't tell me what a dining-room was for.
>
> Fortunately for me, I was called upon to visit one of the homes. After one look around I understood the perplexing situation that had worried me. This so-called home was typical of the homes of at least ten in my class, and others were not very much better off. *It was a one-room shack with a clay floor and mud roof.* There were neither curtains, rugs nor pictures. One corner contained a double bunk. A stove, a table littered with dirty dishes and provisions, two broken chairs, and some boxes made up the rest of the furnishings.
>
> The only knowledge of a home these children had came from such places as this. Yet I had expected them not only to know what a dining-room was, but to make one!

The content of primary children's minds; ignorance of common objects.—Such examples of pupils' lack of real knowledge of common objects early led to the careful investigation of the ignorance of primary children. One such study is entitled "The Contents of Children's Minds on Entering School" and was made by G. S. Hall, in Boston, in about 1880. He had a number of trained kindergarten teachers take first-grade children individually and question them tactfully and skilfully to find out what were their ideas of certain common objects. One child, for example, said, "A cow is as big as your fingernail." Other examples from the investigation which illustrate the percentage of ignorance found in the children are presented in the table on page 181. The items in this table should be read as follows: Of ordinary Boston children entering the first grade, 80 per cent do not know what a beehive is; 77 per cent do not know what a crow is.

PERCENTAGE OF BOSTON FIRST-GRADE CHILDREN WHO ARE IGNORANT OF EACH ITEM AS NOTED

	Percentage		Percentage
Beehive	80	What season it is	76
Crow	77	Location of ribs	90
Sparrow	57	Location of elbows	25
Hen	19	Spade	62
Oak tree	87	Blue	14
Maple tree	83	Red	9
Growing dandelion	52	Triangle	92
Dew	78	Circle	35

Progressive primary school greatly enriches pupils' knowledge.—Such scientific evidence as the foregoing lends large justification to the effort to enrich the experiences of kindergarten and first-grade children through increasing and clarifying their ideas, knowledge, and information concerning the common matters of social life and nature.

(2) *Skills and habits. Emphasized by first grade and kindergarten.*—Both the old-fashioned primary school and the ordinary kindergarten have strongly emphasized the aim of developing specific skills and habits in children. We have already noticed repeatedly the emphasis placed by the primary school on certain essential social skills—reading, writing, and arithmetic—and have noted that the kindergarten added skill in games, in rhythmic activities, in language, and in construction. In addition to these, the kindergarten emphasized certain more general habits and skills such as training in co-operation, in self-control, in obedience, in orderliness, etc. Thus we see that this psychological aim is not in danger of being neglected with little children.

(3) *Worthy ideals. For personal efficiency and good-will.*—By an "ideal" we mean here a clear idea of some attribute or some form of behavior, plus an enthusiastic belief and interest in it. As an example of the operation of an ideal in modifying conduct, a college student told how she had always troubled her mother by lying late in bed until, one day, she read Poor Richard's "Early to bed and early to rise makes a man healthy, wealthy, and wise." Thereupon she began to make this a rule and had observed it ever since. A kindergarten child may form the ideal, "It's nice to be

able to put on your own coat and rubbers"; a first-grade child, the ideal, "It's nice to be a good helper—I want to be a good helper"; or the ideal, "It isn't fair to keep the rest of the class waiting for me." These simple examples suggest that the teaching of ideals should be closely connected with the behavior and habits of the pupils in school and should proceed step by step from the more concrete matters, such as "putting on coat and rubbers," to the more abstract general ideals, such as "being on time" and "being fair." The development of such ideals as contribute to personal efficiency and the formation of moral ideals as the basis of active good-will are among the most important functions of unified kindergarten and first-grade teaching.

(4) *Many-sided abiding interests. Determining lines of desire.*—Finally, we may note what is meant by the fourth psychological aim, namely, many-sided abiding interests. By interests here we mean the permanent lines of desire which determine to a very large extent a person's choices in life. The contrast between the old repellent method of teaching beginning reading and the newer method which builds up the pupil's interest in books illustrates how a child's lines of desire or interests may be cultivated. The rich recreational program of the kindergarten with its lilting melodies and pleasant games illustrates the possibilities of cultivating such recreational interests in pupils. Similarly, its study of community life opens up possibilities of developing civic interests.

Many-sidedness of interest to insure breadth of mind and service.—Even casual consideration shows that such lines of desire, such abiding interests, are factors of great importance in determining one's behavior and happiness. The qualification "many-sidedness" suggests that the school should endeavor to build up in each pupil worthy lines of desire or interests corresponding to all types of human experience—interests in local community affairs, in larger national affairs, in affairs of the whole world, in health, in industry, in science, in music, in literature, in sports and games, in all activities which will tend to make a broad-minded, efficient, serviceable, happy individual. Throughout our later discussion, this training of the many-sided serviceable individual for happiness and complete living may be kept in mind as the ideal toward which the broadening primary schools are working.

Conclusion.—This will conclude our discussions of the social and psychological objectives of primary education. The formula which we have given of these objectives enables us to see how the unified kindergarten and first grade both work toward developing in the pupils knowledge, habits and skills, ideals and interests, that will contribute to their present and future health, harmless enjoyment of leisure, good-will, and social service. In the next article we shall discuss the selecting and organizing of the curriculum through which these objectives may be attained.

BIBLIOGRAPHICAL NOTES ON SOCIAL AND PSYCHOLOGICAL OBJECTIVES

For class discussion the points raised under references Nos. 1 and 4 are interesting and instructive.

(1) Bagley, W. C. *The Educative Process* (New York: Macmillan Co., 1905), pp. 40–65. A notable chapter, simple, clear cut, well organized. It is interesting to compare our fourfold classification of social aims with Bagley's single aim, "social efficiency." Also to compare the latter with our term "social service." Which do you prefer? Why?

(2) Bobbitt, Franklin. *The Curriculum* (Boston: Houghton Mifflin Co., 1918). The most progressive and concrete American discussion of training for occupational efficiency, citizenship, physical efficiency, leisure occupations, and social intercommunication.

(3) Parker, S. C. *General Methods of Teaching in Elementary Schools* (Boston: Ginn & Co., 1921 [revised]). Pages 12–52 elaborate the present discussion with historical details and with practical illustrations from the kindergarten.

(4) Spencer, Herbert. *Education* (1859). The first essay, entitled "What Knowledge is of Most Worth," contains Spencer's analysis of the major social objectives of education as good health, ability to make a living, home service, civic service, and the enjoyment of leisure. A careful, analytical and critical reading of this essay provides excellent training in thinking about education. It is so well organized that making an outline of it gives students practice in careful analytical reading. Since the first part on "ornamentation preceding use in education" is largely false and the emphasis on the teaching of science is considerably exaggerated, while the fundamental contention for determining the social objectives of education by analyzing life's activities is the truthful forerunner of all recent efforts in this direction, the essay provides excellent material for giving students practice in critically discriminating between the false, the exaggerated, and the true in educational writings. Incidentally, it is instructive to compare Spencer's classification of "life's activities" with Bobbitt's analysis as given in reference No. 2 and to ascertain what differences and similarities exist.

[*To be continued*]

THE MOTION PICTURE AS A FACTOR IN PUBLIC EDUCATION

EDWIN A. LEE
University of California

In discussing the motion picture as a factor in public education, it is well to enumerate briefly the other factors which together with the motion picture make up the totality of the institution we know as education. Immediately there comes to mind the public school, an institution set up by the state for the conscious purpose of molding boys and girls to more and more complete citizenship in the commonwealth. There probably never was a time when the real reasons underlying the establishment of public schools were being so assiduously sought as during the present decade, and as a consequence the school as a factor in education is rapidly approaching the position it rightfully should hold. It must be remembered, however, that in thinking of the school and its progress toward the complete fulfilment of its aims we must think in terms of nothing less than generations.

The second agency of education—also a conscious one—is the church. The church likewise is undergoing self-scrutiny, asking itself the question, What is the real function of the church of the living God in a twentieth-century civilization? In seeking to find a satisfactory answer, it is discovering how necessary it is to add teaching to preaching. The younger seminary students, alive to the challenging problems before the church in the next two decades, are combining training in the science and philosophy of education with their training for the ministry and, thus equipped, are going out better prepared for their tasks than any previous generation of preachers.

The third factor of education is different from the two already mentioned. The church and the school have been described as *conscious;* that is, the workers in the church and the school are conscious of their responsibility. Sometimes the home, which is

the third agency, is also a conscious factor, but in the overwhelming majority of cases the home is non-conscious of its responsibility. Nevertheless, it is a most potent factor. The child comes to the school and the church with six years of the most subtle training completed. Habits and ideals and attitudes are already a part of his make-up, not because the home has consciously trained him, but because the home is what it is, and he has imbibed from it the things that make him what he is.

The press is the fourth factor. Ideally, the press should be considered a non-conscious factor, for the function of the press is the unbiased presentation of the important news of the day or the week, supplemented by interpretation and comment on the part of a trained staff of editors. Would that the ideal were actual! What is true is that most men and women are content to let the newspaper they read determine their political, social, and ethical philosophy of living. One longs for a generation of editors, fearless alike of publisher and advertiser, who can make of the press the great positive factor in the education of our people which in truth it should be.

The last factor is the theater, and to this belongs the motion picture. These five factors—the school, the church, the home, the press, and the theater—in their various combinations and interweavings make up the totality of the institution of education.

In many ways the motion picture is the single most potent educational factor in our present-day civilization. A student body of over fifty millions attends some performance every week of the year. It is well to remember that for the most part these fifty millions are above the age of six and that a greater proportion of our more or less mature population is actually attending film plays than is apparent on the face of the figures. This stupendous number of human beings sit in the theater under almost ideal conditions from an educational point of view.

Consider, for example, the matter of interest. It is a fundamental principle of education that an individual learns most from or about that thing in which he is most interested and that, generally speaking, a person learns least from that in which he is least interested. Modern teachers, modern preachers, modern editors are

all cognizant of this principle. The motion picture has everything in its favor in the matter of interest. Individuals are in the theater voluntarily. They are interested, or they would not be there. Certainly they would not remain if there were nothing interesting to hold them. The teacher must plan carefully so that she may legitimately secure the interest of her pupils. The film play need make no effort to secure the interest of those in attendance. Textbooks must be written to hold the interest of the student. The film play by its very nature captivates and holds the interest of those in attendance from the first flicker of the projecting machine.

Another condition favorable to a process of education is concentration of attention on the lesson to be learned or the problem to be solved. To the extent that a teacher can bring about real concentration on the matter at hand will that teacher, other things being equal, succeed in educating those under his tutelage. To the extent that there is inattention with consequent lack of concentration, no matter what the reason, does the problem of teaching become more and more difficult. Go into any motion-picture theater. What do you find? A large room almost entirely dark except for the vivid spot at the front of the house on which is being thrown the motion picture. Try to keep your eyes from that bright spot. Try to think of anything but the subject of the picture. It is practically impossible to do other than concentrate on the play being shown on the screen. There is no distraction except the man who insists on reading the subtitles to his wife, and we glower at him or complain to the usher that he is disturbing our entire absorption in the picture. Sometimes the "music" distracts, it is true, but more and more the music is being synchronized with the action so that our concentration is even deeper than it might otherwise be. The mind of the spectator in most cases is as a wax record on which the film makes an impression which enters into the thoughts and feelings of that individual and becomes a part of him from then on. For some, the finer the picture, the deeper the impression. For others—probably the great majority—it makes no difference whether the picture be fine or coarse or vile, the impression is just as deep in one case as in another. For all, there is the inescapable fact of undivided attention and consequent

concentration. If there were no other reason, this alone would warrant our giving serious attention to the film as a factor in education.

Then, there is the further fact that of all of the impressions received by the human organism, those received through the eye are the most definite. What we hear is open to question. That which we see with our own eyes is as nearly true as any sense impression can be. A person could be deaf and dumb and have a cold in the head which would inhibit all sense of smell or taste and yet get from a motion picture all that a normal human being could get, provided he had a background of experience which would serve to interpret that which his eye conveyed to the brain.

One might extend the list much farther, but it is not necessary. It is apparent even with this superficial examination that the educational significance of the motion picture is of tremendous concern to those who have the future welfare of this great commonwealth at heart. What, then, is to be done about it? The solution lies in two places and only two. One is the great public which makes up the patronage of the motion-picture industry. If this great public be alienated in any considerable numbers, the motion-picture industry faces disaster. It is an industry which has no by-products. It is an industry which cannot be turned to other uses in case its present product ceases to be salable. More than any other industry, its continued existence depends on the good-will and satisfaction of those whom it serves. It is gratifying to know that the great producers are commencing to take this fact into account with considerably more seriousness than was evident twelve months ago.

The character and desires of those in attendance at the motion-picture theater are matters of cardinal importance for the future of the industry. The plain fact is that the American people can have just about what they want in motion pictures if they are educated to the manner of satisfying that want. The point which must not be overlooked is the necessity that the wants of the people shall be of such a nature that better and better pictures will result. The raising of the standard as to the type of pictures which shall be produced rests on the first three factors of education mentioned—the school, the church, and the home.

The other point at which we may hope to have improvement is in the production staff of the motion-picture industry. The ultimate solution lies in having at the source of the motion picture—in the scenario department, in the directing staff—a leadership which is, first of all, educated leadership—a leadership which recognizes that the motion picture is the greatest single educational agency in the modern civilized world, a leadership which, so recognizing, is willing to accept the moral responsibility involved and to build its future program on that responsibility. The time is rapidly passing when ignorant and illiterate and immoral directors will any longer be tolerated by the public. We are facing the birth of a new calling, which must be truly professional in its outlook if the motion picture is to realize its destiny. What we call this new profession is immaterial. On its members will rest the final responsibility for every picture produced. The man holding the money bags will have to bow to the judgment of a representative of the profession. The man claiming to know the desires of the public will have to bow to his decision. He will be the director par excellence of the motion-picture industry with just one aim in mind—the production of photoplays which shall reflect credit on the profession he loves and desires to advance. The following are some of the qualifications which shall be set up for entrance into the profession of motion-picture director:

First, absolute personal integrity and honor resulting in a moral sensitiveness which will admit of no perversions. To such a director, to change "The Admirable Crichton" to "Male and Female" would be unthinkable. To such a director, the presence in his company of an actor whose private life is a reproach would mean but one course of action—getting rid of the actor or resigning. There could be no middle ground.

Second, the possession of an artistic sense which does not mistake lavishness for art. Such a director, in addition to ruling out certain current productions on moral grounds, would veto them also on artistic bases. The many gowns of one of the leading exotic, not to say erratic, actresses would be recognized for what they are—vulgar display.

Third, the possession of a dramatic sense which recognizes that the motion picture is, first of all, a play in which there is plot and

subplot, clash of character against character, dramaturgic vitality—all of the characteristics which sometimes raise the motion picture from the field of cheap entertainment to the field of dramatic art. Happily, most of the present-day directors, although they fall short many times on the other qualifications, are showing by their work that they are fairly well qualified dramatically.

Fourth, the possession of the graces of a gentleman; refinement and good taste would be insisted upon. Even in such a splendid picture as the "Prisoner of Zenda," which in many ways is one of the most satisfactory productions of the year because of its plot, its well-chosen cast, its exquisite artistry, the old marshal was allowed to slip and almost fall when he kissed the pseudo-king's hand after the coronation ceremony, obviously to cause a laugh on the part of the spectators. In none of the showings which I saw—and I have witnessed the picture five times—did the incident cause more than the mere beginning of a laugh, always quickly hushed as if those present were ashamed, showing how definitely a false note was struck. In the same picture a play for a laugh is made by the expedient of having one of the insignificant characters inadvertently throw a rotten banana into the face of a pompous railroad guard. Such vulgarities are inexcusable whether or not they result in the laugh which the director expected. Humor is not vulgarity.

Fifth, the possession of a sense of humor—that sense which never allows a man to take himself too seriously. The best example of an entire picture lacking in a sense of humor is the "Loves of Pharaoh."

The sixth and last qualification is a sense of responsibility so deep and profound that it takes the man to his knees before each day's work—a feeling that in directing a play he is not only directing the actors before him but the countless multitudes which will see the play when it is shown to the world and, having seen it, will henceforth be changed for better or worse for having witnessed his handiwork.

How such a profession will come, it is not possible to say. It may come as the other great professions have come—from the men within. The profession of medicine is what it is because the men who make up its membership have built up their standards of training, their ethical codes, their professional spirit. It is to be

hoped that the motion-picture directors will professionalize their great vocation similarly.

It may be that the state, recognizing the strategic importance of the director as an educational force in the nation will, by legal enactment, lay down certain standards which must be met before an individual will be allowed to direct the production of a motion picture. I am not so sure but that this is the immediate way out. Professionalization from within is the ideal way, but it is a slow process, and we cannot wait much longer for truly educated leadership at the helm of the motion-picture industry. Whatever happens, whether professionalization in its truest sense comes from within or standards are raised from without, the fact remains that the motion picture today is at least as important in the education of the commonwealth as the public school. To the extent that the public realizes this fact and in consequence assumes the responsibility for intelligent and discriminating efforts toward better motion pictures will real progress be achieved.

IMPROVEMENT IN LANGUAGE WORK

J. C. SEEGERS
Tileston School, Wilmington, North Carolina

For some time, it had been recognized in the Tileston School that the language work was considerably below standard, and at the opening of the session of 1922–23 it was agreed that language work should be stressed throughout the year. In order to get a broad view of the situation and to obtain something tangible on which to base our efforts, the Willing Scale for Measuring Written Composition was used in the seventh and eighth grades on October 16, 1922. In the seventh grade especially, a rather detailed and extensive study of the situation was made.

The Willing Scale for Measuring Written Composition is a series of paragraphs actually produced by school children, each assigned an arbitrary value according to the several rankings obtained by taking the median vote of a number of judges. There are eight paragraphs on the scale, and the values range from 20 to 90, with an interval of 10 between each two steps. The papers to be judged are read by the scorers, and each is assigned the value given on the scale to the paragraph most nearly resembling the paper in question. That value is termed "story value." Further, the errors are marked and counted, and the number of errors per hundred words is computed. That figure is termed "form value." High story value indicates excellence, while low form value indicates few mistakes. For the seventh grade, the story-value standard is a median of 74; form value, a median of 5.8. The papers were scored by the four seventh-grade teachers and the principal. The median vote or estimate on each paper, for both measurements, was accepted. It is evident that, even with a scale before one, comparison and opinion presuppose a personal equation that must be reckoned with. It was for this reason that five people scored the papers. Table I shows the results.

The errors found on the papers were classified and tabulated by the principal, as indicated in Table II. A further study of

these errors disclosed the fact that, of the mistakes in spelling, an astonishingly large percentage occurred in the spelling of such simple words as "and," "too," "there," "their," "are," "or,"

TABLE I

RESULTS OF THE USE OF THE WILLING SCALE FOR MEASURING WRITTEN COMPOSITION, OCTOBER, 1922

Room	Number of Pupils	Story-Value Median	Form-Value Median
1	26	40	17
2	35	50	12
3	33	40	12
4	40	60	6
All	134	50	11

"too," "to," and "two." Most of the mistakes in punctuation concerned the question mark, the period, and the comma. Most of the errors in construction hinged on the failure to end a sentence when the thought ended. Phrase after phrase was added by the use of overworked connectives like "so," "and then," "and so."

TABLE II

CLASSIFICATION OF ERRORS MADE IN OCTOBER, 1922

Room	Number of Errors in Punctuation	Number of Errors in Spelling	Number of Errors in Grammar	Number of Errors in Construction
1	151	265	24	36
2	263	227	105	84
3	321	256	56	82
4	103	160	51	30
Total	838	908	236	232

This study proved that our diagnosis of the situation was only too true. Our seventh grade was at about fourth-grade standard. However, we had something specific on which to work.

At a conference of the seventh-grade teachers and the principal, and later at a general teachers' meeting, the following procedure was decided upon: (1) that the teachers tabulate, from time to time, the errors found on the papers submitted to them in order to ascertain the type of work most needed and the points to be stressed; (2) that the teachers insist that all lessons be presented in good

English and that all papers be marked for English as well as for subject-matter; (3) that the Willing scale be posted in each room and the children encouraged to compare their papers with it frequently; (4) that a child very weak in English be allowed to take language work in two sections or even in two rooms; (5) that the children be told their deficiencies and informed that a later test would be given in which better results would be expected; (6) that a contest be held to see which child could report and correct the greatest number of errors heard anywhere except in his own home, those which occur most frequently to be assigned to the various grades, severally, for particular effort; (7) that the teachers emphasize language work incessantly; (8) that, in the case of weak pupils, frequent conferences be arranged to include the pupil, the teacher, the parent, and, if necessary, the principal, and that the co-operation of parents be enlisted where possible; (9) that the very weak pupils work outside the regular classroom routine with the teacher or principal; (10) that the language work, especially in those grades in which the tabulation of errors was carried on extensively, be adapted to the class section and not made to fit any particular formula, the course of study minimum essentials being observed; (11) especially in the seventh grade, that the errors prevalent in the test papers be stressed; (12) that the adopted grammar be followed, but not to the point of inflexibility; (13) that the points under stress be carefully marked in the written work handed in, but that not too much written work be required; that correct expression in oral English lessons and in recitations in other subjects be emphasized; (14) that no opportunity be lost to interest the children and have them realize the need for improvement.

This program was put into effect immediately and was kept constantly before the teaching force of the school throughout the year.

In the seventh-grade rooms, on March 14, 1923, the Nassau County Supplement to the Hillegas Scale for Measuring the Quality of English Compositions was given as one of a battery of tests used in a study made by the state university of the schools of North Carolina. This scale is similar to the Willing scale, except that the values assigned range from 0 to 9, and only one value is computed. That value is based on both excellence of narrative skill

and freedom from error in the paper judged. The standard median for the seventh grade, as suggested by Professor M. R. Trabue, who prepared the scale, is 5. Actual practice suggests a seventh-grade standard of 4.7. The papers submitted by the children in this test were of approximately the same length as those written by the children in October. This fact was indicated both by the general impression derived from scoring the papers and by actual comparison of a number of papers chosen at random from those submitted in October and those submitted in March. One hundred and thirty-five children took the test in March. The results obtained are shown in Table III.

TABLE III

RESULTS OF THE USE OF THE NASSAU COUNTY SUPPLEMENT TO THE HILLEGAS SCALE, MARCH, 1923

Room	Median
1	1.9
2	4.6
3	3.8
4	5.5
All	4.4

One room actually exceeded the standard, and all of the rooms except Room 1 moved materially nearer the standard. The tabulation of errors again was undertaken, with the results as given in Table IV.

TABLE IV

CLASSIFICATION OF ERRORS MADE IN MARCH, 1923

Room	Number of Errors in Punctuation	Number of Errors in Spelling	Number of Errors in Grammar	Number of Errors in Construction
1	108	163	29	46
2	67	96	23	15
3	55	122	37	11
4	68	110	31	24
Total	298	506*	120	96
Total, October	838	908	236	232

*Fifteen errors are added to the totals tabulated for the reason that a separate class was made of "and," "there," "or," and "are," which were misspelled so many times in October. In all of the papers, these words were misspelled only fifteen times.

The same stress was continued until the end of the school year, and on May 31, 1923, the Willing scale was again used. For various reasons, only 110 children were present at the time this test was given, so that the comparison of errors made is not so clear an index as in the two previous cases. The scores are shown in Table V. The grade as a whole attained a story-value median of 65, less than one step below standard. In form value the grade median was 5.2, which slightly exceeds the seventh-grade standard of excellence. We found by sampling a number of papers that the papers in this test averaged about 40 per cent longer than those submitted in October, indicating greatly increased fluency and ease. We found that most of the errors in punctuation concerned the

TABLE V

RESULTS OF THE USE OF THE WILLING SCALE FOR MEASURING WRITTEN COMPOSITION, MAY, 1923

Room	Story-Value Median	Form-Value Median
1	40	8
2	60	6
3	60	5
4	80	3
All	65	5.2

punctuation of quotations, whereas in October very few children even attempted to introduce conversational effect in their papers. In appearance, this last group of papers greatly excelled both of the other two. The indentation was carefully spaced. The writing was neater. In most instances the titles were carefully separated from the body of the paper. Table VI lists the errors. It will be noted that the number of errors per child slightly exceeds the corresponding figure for the March test. However, the number of errors per hundred words written is less. The explanation lies in the greater length of the papers.

Altogether, the study has been very helpful to the school. The improvement in language work in the seventh grade is evidenced by the statistical tabulations given. In addition, the close co-operation of the teachers in stressing language work, especially

in the seventh-grade departmental work, and the real interest aroused in the pupils had an extremely stimulating effect on the school organization. In one of the sixth-grade rooms, two tests

TABLE VI

CLASSIFICATION OF ERRORS MADE IN MAY, 1923

Room	Number of Errors in Punctuation	Number of Errors in Spelling	Number of Errors in Grammar	Number of Errors in Construction
1	88	95	33	29
2	63	103	37	11
3	65	85	48	21
4	106	99	20	16
Total	322	382	138	77
Total, March	298	506	120	96
Total, October	838	908	236	232

were given with the same results as those shown for the seventh grade, and it is undoubtedly true that the language work in the whole school, of some 850 pupils, received a decided impetus as the result of the year's work. The results obtained can be attributed to systematic planning, thorough co-operation among the teachers, active interest on the part of the pupils, and the aid in objective marking afforded by the scales. That the children were actively interested was manifest. The contest produced thousands of error slips submitted. A great many children compared their papers with the scale in their classroom. I have a list of over twenty children who, voluntarily, or by request in some cases, brought papers to my office over a period of several months to see if any improvement was noticeable in their work.

THE COURSE IN NATURE-STUDY AND SCIENCE IN THE UNIVERSITY ELEMENTARY SCHOOL. II

BERTHA M. PARKER
University Elementary School, University of Chicago

No textbooks are used in teaching nature-study and science in the University Elementary School. Much of the reading material used is in mimeographed form, for, unfortunately, it is more difficult to find published reading material which will adequately supplement first-hand experiences than the long list of science books for children now on the market would seem to indicate. Apparently many authors who write science books for children have the idea that the science material which they have to present is of itself uninteresting to children of the elementary-school level and must in some way be given a "sugar coating" to make it readable. On the other hand, there are the books, presumably written for children, which presuppose too large a background of science experience and too large a vocabulary.

A glimpse at a few of the science books that have been written for children may serve to show some of the faults which we try to avoid when we select or prepare supplementary reading material.

The Rain Children[1] and *The Waterboys and Their Cousins*[2] are two comparatively recent books dealing with the phenomena which have to do with water. The vocabulary in both is well within the grasp of a fourth-grade child. Both books are fairly attractive. They are also alike, however, in that they show one of the common types of "writing down" for children. Everything with which the topic has to do is personified. The chapter headings of *The Rain Children* are "Aunt Cold," "Aunt Heat," "Colonel Lightning," etc. In *The Waterboys and Their Cousins* the water-

[1] T. H. Orpen, *The Rain Children*. London, England: Society for Promoting Christian Knowledge. Pp. 112.

[2] C. D. Lewis, *The Waterboys and Their Cousins*. Philadelphia: J. B. Lippincott Co., 1918. Pp. 172.

boys are molecules of water. The "waterboys," the "root child," and the "bean baby" carry on conversations. The author of *The Waterboys and Their Cousins* defends himself by saying, "Why not give the molecule life and human form if by doing so one can make it more real? . . . . Those who have made a life-study of molecules tell us that they are not solid bits of matter but wonderfully complex structures, so why not let us give them life and arms and legs and heads that we may better think of their wonderful ways?" (p. 151).

When we give children such material to read, we ask them to make a very nice distinction between fact and fiction. If they are intelligent enough to make this distinction, we insult that intelligence by such obvious writing down; if they are not intelligent enough to make the distinction, the material is worthless.

The Strange Adventures of a Pebble[1] contains much good science information. The book is attractive. The vocabulary is, on the whole, well chosen. However, as supplementary material to be read in connection with the unit which deals with rocks as the recorders of the earth's history, we can use only small portions of it. In the first place, we find in it the type of writing down previously mentioned. We read of "old Mr. Labrador," "Big Chief Boulder," and "Mr. Keewatin." The instructions on page 144 are: "For instance, put in it [a notebook] now some of the different things we have learned about the wonder-workers of the great ice age, up to and including this chapter. Call what you write, "The Story of the Old Men of the Mountain." Moreover, the entire content of the book is supposedly told by a pebble. There are so many digressions from the story of this particular pebble that it is difficult to keep in mind the fact that "I" throughout the book is the pebble, not the author. This pretense of having the pebble tell the story serves only to make the thought difficult to follow. In many places the style is flippant: "But why do the little crystals always come together in just such a way as to make big crystals shaped exactly like themselves? Goodness knows!" (p. 108). "You have heard the expression 'clothes make the man,' but in the case

[1] Hallam Hawksworth, *The Strange Adventures of a Pebble*. New York: Charles Scribner's Sons, 1921. Pp. 296.

of these men of the snows it is literally true, so far as their hats are concerned, for it is their hats that make them grow. 'I bite,' said the high-school boy, 'what's the answer?'" (p. 60). In addition, the material is poorly organized. The author has done this consciously. He fears to make the book like a textbook and uninteresting if he organizes his material into well-defined topics. He wishes to interest the children in rocks and glaciers and volcanoes rather than "to reward an appetite already aroused." When the "appetite" has been aroused by class discussions and first-hand observations, the book is unsatisfactory from this standpoint of organization.

The Story Book of Science[1] by Fabre is alternately on too high and too low an intellectual plane. We find in it another type of writing down—the inclusion of extraneous material of a narrative or conversational type.

THE KETTLE

Now, that day, Mother Ambroisine was very tired. She had taken down from their shelves kettles, saucepans, lamps, candlesticks, casseroles, pans, and lids. After having rubbed them with fine sand and ashes, then washed them well, she had put them in the sun to dry them thoroughly. They all shone like a mirror. The kettles particularly were superb with their rosy reflections; one might have said that tongues of fire were shining inside them. The candlesticks were a dazzling yellow. Emile and Jules were lost in admiration.

"I should like to know what they make kettles of, they shine so," remarked Emile. "They are very ugly outside, all black, daubed with soot; but inside, how beautiful they are!"

"You must ask uncle," replied his brother.

"Yes," assented Emile.

No sooner said than done: they went in search of their uncle. He did not have to be entreated; he was happy whenever there was an opportunity to teach them something.

"Kettles are made of copper," he began.

"And copper?" asked Jules.

"Copper is not made" [p. 49].

All of this is preliminary to an account of the mining of copper and the making of kettles of it.

[1] Jean Henri Fabre, *The Story Book of Science*. Translated by Florence Constable Bicknell. New York: Century Co., 1917. Pp. 400.

The following sentences come from the same book:

In spite of the terrible but rare accidents that it causes, obeying in that the inscrutable decrees of God, it is one of the most powerful means that Providence employs to render the atmosphere wholesome, to clear the air we breathe of the deadly exhalations of decay [p. 174].

The two electricities, therefore, supplement and neutralize each other, that is to say, they form something invisible, inoffensive, inert, that is found everywhere and is called neutral electricity [p. 172].

The criticism of the extraneous narrative material in *The Story Book of Science* should not be taken to mean that we avoid all narrative material. *Stickeen*,[1] a story by John Muir, gives a vivid picture of a glacier and is very good supplementary science material. In the one case, the narrative element contributes nothing to the science topic under discussion—it is used merely to persuade the child to read the later discussion; in the other case, the narrative serves to bring out the science content more vividly—the description of the difficulties encountered by Mr. Muir and Stickeen in crossing the glacier contributes a great deal to our understanding of a glacier. Well-told stories of the personal experiences of others with nature and science material can do much in broadening a child's experiences within these fields. In Volume XI of *The Children's Hour*[2] there are a number of these stories of personal experiences with nature written by such naturalists as John Muir, Enos Mills, John Burroughs, and Dallas Lore Sharp. Some of these can be used to good advantage as supplementary reading material. Well-written stories of scientific inventions are good material, too.

On the other hand, we insist that it is not necessary that all science material, to be interesting, have in it a narrative element. Children themselves are impatient with irrelevant narrative material. In preparing mimeographed material we have tested this point a number of times. For example, two paragraphs were prepared, one of which was to serve as an introductory paragraph for an account of the importance and work of bacteria, yeasts, and molds. The two paragraphs follow:

1. Have you ever read the old myth of Perseus? If you have, you probably remember that when Perseus started upon his quest for the head of the Gorgon

[1] John Muir, *Stickeen*. Boston: Houghton Mifflin Co., 1909. Pp. 74.

[2] Eva March Tappan, *The Children's Hour*. Boston: Houghton Mifflin Co., 1916.

Medusa Plato gave him a magic helmet. When he wore this helmet, he had only to wish himself invisible and no one could see him. This helmet was so helpful that he succeeded in bringing back the head of Medusa. You can imagine how hard it must have been for the enemies of Perseus to fight against him when he was invisible. How would you know where to strike at an enemy that you could not see? It was fortunate, however, that Perseus did not have to call upon anyone for help during his encounters. If any friends had come to aid him, it would have been almost impossible for them to help him if they could not see him. Strange as it may seem, you have invisible friends and enemies whom it is very difficult for you to help or fight against. They are invisible, not, of course, because they are wearing magic helmets, but because they are too small to be seen without a microscope. Among these invisible friends and enemies are the bacteria, yeasts, and mold spores.

2. "Where does all of this dust come from?" How often we hear people say this when they find that the furniture which they dusted a short time before is dusty again. We seldom hear them ask, "What is this dust?" How surprised many of them would be to be told that some of the dust which floats in the air and settles upon our furniture is alive! But it is true. In this dust, along with bits of rock and wood and lint and dust from meteors, there are very sure to be some tiny, tiny living plants. Even if you examine a bit of dust very carefully, you will be unable to find any of these little plants because they are too small to be seen without a microscope. These tiny plants found in dust are not all alike by any means. Some of them are bacteria. Some are yeast plants. There are also spores of mold plants. From these spores new mold plants grow. These bacteria, yeasts, and mold spores we might call "living dust."

The classes to which this material was read voted almost unanimously for the second paragraph.

Again, mimeographed material which we had prepared concerning the phases of the moon began by telling some of the myths told by various peoples to account for the fact that the moon apparently changes shape. It then went on to tell the real reason for the apparent change of shape. The purpose of including the myths was not only to capture the interest of the reader but primarily to give an idea of the progress we have made in ability to interpret our material environment. However, the reaction of the class was that it would be better to omit the myths.

Children are probably somewhat more impatient with irrelevant material when they are reading to find an answer to a question that has been raised than when they take a science book from the shelf in a free reading period. However, even then children are likely to

react to irrelevant narrative material in one of two ways. A child begins reading, thinking that it is fiction rather than science and stops reading when the fiction ends and the science begins. Or, if he is interested in the science topic under discussion, he is displeased with having to read this "padding."

Mimeographed material is, of course, not altogether satisfactory. It is never attractive in appearance; it is often difficult to read, and it lacks that legitimate means of attracting the attention of children—well-chosen and well-printed pictures. It has, on the other hand, the advantage of having been prepared to meet the interests and abilities of the particular children to whom it is given, and it serves an important purpose when published material in which the information is detailed and accurate and the style good cannot be had.

The course in nature-study for the kindergarten and the first three grades is not outlined in terms of the specific subject-matter to be handled in each grade. In general, we plan that the work of these grades shall include the following:

1. Observing and caring for pets that are kept in the schoolrooms. White rats, white mice, rabbits, finches, canaries, ringdoves, and chickens are among the pets that have been cared for recently.

2. Study of the common domesticated animals.

3. Study of wild animals. Animals seen on trips to the zoo are those usually studied.

4. Maintaining an aquarium. Fish, snails, tadpoles, turtles, back-swimmers, water-boatmen, whirligig beetles, giant water-bugs, and crayfish have been in the aquariums recently.

5. Study of birds. There is no prescribed list of birds to be studied.

6. Study of insects. In addition to the water insects that may be in the aquariums, at least one insect with a four-stage life-history —e.g., the Cecropia moth—and one communal insect—e.g., the social wasp—are studied.

7. Raising and caring for plants. The children have the experiences of raising plants from seeds and from bulbs, indoors as well as in the garden, and of caring for the plants in the window-boxes.

Again, there is no prescribed list of seeds or bulbs to be planted. We feel that an important part of the training comes from discussing the purposes for which the plants are being raised and the conditions under which they will have to grow and from then selecting seeds and bulbs with these purposes and conditions in mind.

8. Study of trees. This includes making blue-prints of leaves.

9. Keeping weather records.

10. Observing and discussing phenomena associated with the change of seasons.

11. Study of wild flowers. Emphasis is put on the importance of wild-flower preservation.

12. Making and discussing various toys. Paper windmills, balancing toys, and tumble-jacks are among the toys frequently made.

Although the course is predominantly biological, there is certainly no disposition to make it exclusively so. In addition to the non-biological units listed, experience with physical materials is frequently to be had in connection with biological units. For example, the first grade this year studied evaporation in connection with raising bulbs in water. The third grade used and studied the siphon in connection with the aquarium.

Certain of the activities and general topics listed are continued from grade to grade. Gardens are made by each grade; bulbs are planted by each grade; birds are studied by each grade, etc. As a rule, the specific materials handled vary from grade to grade.

The choice of specific topics is not limited to those that fall under the general headings listed. The list should be regarded as showing the minimum range of experience with science materials which we attempt to provide.

Exactly what topics will be taken up by any one group depends in part on the materials which are observed or collected by the group as a whole in the garden or on field trips. To illustrate: The second-grade class, on a very short field trip last fall, found a cocoon but soon discovered that the insect was dead. The class had had some previous experience with moths. The problem of what had killed this moth led to the study of the parastic ichneumon fly.

Again, in the first visit made by the third-grade group to the garden last fall, the class found that the gardener who had cared for the gardens during the summer had carefully left growing one kind of weed—Galinsoga. The question of why the gardener had not known that Galinsoga is a weed led to a discussion of the fact that it is a South American weed of comparatively recent introduction. The problem of how it could have come to our gardens from South America led, in turn, to a discussion of means of seed distribution.

Materials brought to class by individual members of a group serve to introduce other topics. Once the attention of the children has been directed toward nature-study materials, they are usually eager to bring materials for study. Snails, moth and butterfly collections, a wasp's nest, the stump of a tree gnawed by a beaver, pitcher-plants, and the nest of a yellow warbler are among the many materials recently brought by children of these grades.

Sometimes topics are suggested by assembly talks or exercises. Various members of the science faculty from time to time talk to the children of these grades at assembly. "Beavers," "Lumbering in the Northwest," "Wild-Flower Preservation," and "The Dunes in Winter" are subjects of illustrated talks given recently by members of the college faculty. Often the children wish to continue the study of these topics.

Work in other subjects may suggest topics for study in the nature-study periods. Often nature-study is closely correlated with the study of community life. Domesticated animals are often studied, and such processes as butter-making are carried on in the first grade in connection with the study of the farm. Kinds of stone for building purposes and plants and animals which furnish fibers for cloth were studied last year in connection with problems of shelter and clothing.

In addition to the topics that are thus incidentally suggested, the teacher from time to time introduces topics which make for the desired variety of experience.

It goes without saying that the detail with which any topic taken up is treated depends in part on the age of the children. A third-grade class may, of course, be expected to make a more

intensive study of a topic than a kindergarten class. The method followed differs with different topics. It is obvious from the general outline that much emphasis is put on activities with nature materials. The periods allotted to nature-study are in general given to (1) carrying on activities such as planting the garden or making windmills, (2) taking short field trips, (3) observing the materials provided and examining the pictures used to supplement the actual materials, (4) conversing informally about these observations, (5) reading supplementary material, (6) recording the information gained, and (7) playing various games based on the topic under discussion.

As a rule, the grade teachers, rather than the departmental science teacher, have charge of the nature-study in these grades. The absence of a detailed outline of specific subject-matter throws much more responsibility on these teachers than would be the case if there were such an outline. The teacher must be able to evaluate any topic suggested by the children. For one reason or another, a suggested topic may not be worth spending time on. This year, for example, a boy in the third grade brought to class a radio set he had helped his father make. He was very eager that the class study radio. The class, however, lacked the background that would make such a topic worth while. The boy was, of course, permitted to show his instruments and to tell what each one was to be used for, but the topic was carried no farther. To prevent unwarranted duplication, the teacher must know, too, not only what topics have been handled by her group in previous years but also something of the detail with which they have been treated. Filed records make this possible. Moreover, the teacher needs a much better command of source materials than would be necessary if there were a fixed course.

To offset the greater responsibility put on the teachers, the freedom in the choice of topics makes, we feel sure, for greater interest on the part of the children and consequently greater accomplishment and for the absence of that formality which is likely to be present with any attempt to follow a fixed and inflexible course.

[*To be continued*]

THE WOODY-McCALL MIXED FUNDAMENTALS TEST AND ARITHMETICAL DIAGNOSIS

PAUL V. SANGREN
Western State Normal School, Kalamazoo, Michigan

The importance of an analysis of the errors made by pupils on a standardized test, together with a study of the causes for such errors, has often been emphasized by educators. Such an analysis is certain to be of diagnostic and instructional value. The writer has undertaken a study of this sort in connection with the results secured from giving Forms I and II of the Woody-McCall Mixed Fundamentals Test in Arithmetic to pupils in Grades III to VIII inclusive at Zeeland, Michigan. Form I was given in October, 1922, and Form II in May, 1923. The results in terms of medians are shown in Table I. An examination of this table indicates that all of the grades equal or exceed the Woody-McCall standards.

TABLE I

MEDIAN SCORES OF ZEELAND, MICHIGAN, PUPILS ON THE WOODY-McCALL MIXED FUNDAMENTALS TEST

GRADE	FORM I		FORM II	
	Median Score	Standard	Median Score	Standard
III	7.4	6.8	12.8	12.8
IV	15.0	13.1	20.8	17.7
V	18.6	17.8	24.6	21.9
VI	24.2	22.5	26.5	25.0
VII	26.2	25.9	29.4	27.4
VIII	28.1	27.8	32.4	29.3

The gross results of the analysis of the 2,950 errors which occurred on the two forms of the test appear in Tables II, III, IV, and V. For purposes of comparison it was best to consider separately the four fundamental operations. These tables show the number and percentage of errors made on the tests by all of the pupils. It will be seen that there are 933 errors in multiplica-

tion, 899 errors in addition, 626 errors in subtraction, and 492 errors in division. No doubt, the difference in the number of errors made on the four operations may be accounted for in part by the fact that there is a difference in the number of examples to

TABLE II

ANALYSIS OF 933 ERRORS IN MULTIPLICATION

Classification of Errors	Number	Percentage
Incorrect carrying or failure to carry	234	25.1
Incorrect multiplication	216	23.2
Addition instead of multiplication	131	14.0
Incorrect placing of decimal or omission of decimal	73	7.8
Incorrect reduction or failure to reduce	51	5.5
Subtraction instead of multiplication	46	4.9
Incorrect addition	39	4.2
Incomplete multiplication	37	4.0
Omission or addition of one term	32	3.4
Failure to employ both parts of fraction	27	2.9
Incorrect bringing down	27	2.9
Multiplication of both parts of fraction for one	12	1.3
Confusion of numerator and denominator	5	.5
Division instead of multiplication	3	.3
Total	933	100.0

TABLE III

ANALYSIS OF 899 ERRORS IN ADDITION

Classification of Errors	Number	Percentage
Incorrect carrying or failure to carry	370	41.2
Incorrect addition	264	29.4
Incorrect reduction or failure to reduce	115	12.8
Subtraction instead of addition	47	5.2
Multiplication instead of addition	42	4.7
Incorrect placing of decimal or omission of decimal	40	4.4
Incomplete addition	13	1.4
Incorrect placing or bringing down	8	.9
Total	899	100.0

be worked. Taken together, Forms I and II of the Woody-McCall test have examples as follows: 20 in multiplication, 19 in addition, 15 in subtraction, and 15 in division.

As we consider Table II, we see that the errors due to "incorrect carrying or failure to carry," "incorrect multiplication," "incorrect

placing of decimal or omission of decimal," and "incorrect reduction or failure to reduce" cover about two-thirds of all of the errors in multiplication. Table III shows that "incorrect carrying or failure to carry," "incorrect addition," "incorrect reduction or failure to

TABLE IV

ANALYSIS OF 626 ERRORS IN SUBTRACTION

Classification of Errors	Number	Percentage
Incorrect borrowing or failure to borrow	189	30.2
Incorrect subtraction	147	23.5
Incorrect reduction or failure to reduce	112	17.9
Addition instead of subtraction	101	16.1
Confusion of subtrahend and minuend	28	4.5
Multiplication instead of subtraction	24	3.8
Incomplete subtraction	10	1.6
Omission or addition of one term	10	1.6
Division instead of subtraction	5	.8
Total	626	100.0

TABLE V

ANALYSIS OF 492 ERRORS IN DIVISION

Classification of Errors	Number	Percentage
Incorrect division	173	35.2
Incorrect inverting or failure to invert	59	12.0
Incorrect placing of decimal or omission of decimal	51	10.4
Incomplete division	47	9.6
Incorrect subtraction	36	7.3
Multiplication instead of division	29	5.9
Incorrect reduction or failure to reduce	27	5.5
Use of incorrect denominator for remainder	21	4.3
Subtraction instead of division	15	3.0
Addition instead of division	11	2.2
Incorrect multiplication	10	2.0
Failure to employ both parts of fraction	7	1.4
Omission or addition of cipher in quotient	3	.6
Incorrect placing or bringing down	3	.6
Total	492	100.0

reduce," and "incorrect placing of decimal or omission of decimal" constitute about seven-eighths of all of the errors in addition. From Table IV we see that "incorrect borrowing or failure to borrow," "incorrect subtraction," "incorrect reduction or failure to reduce," and "confusion of subtrahend and minuend" constitute about

three-fourths of all of the errors in subtraction. Table V shows that "incorrect division," "incorrect inverting or failure to invert," "incorrect placing of decimal or omission of decimal," and "incorrect subtraction" cover about two-thirds of all of the errors made in division. On the basis of this analysis, we are probably justified in saying that if pupils can "carry," "borrow," "reduce" terms, "invert" in dividing, handle the multiplication tables, handle the combination tables, and use the decimal, their errors will be reduced to about one-fourth of the present number. Are we not also justified in saying that from two-thirds to seven-eighths of the teacher's time in teaching the fundamentals of arithmetic should be spent in reducing and eliminating these seven great sources of error?

The majority of the errors which pupils make on the Woody-McCall test are not peculiar errors involving some unusual or uncommon mental processes. The larger number of the pupils' errors simply indicate that they have never completely learned how to use the decimal, how to carry, how to reduce, etc. There are, of course, some more unusual errors, among which are the following: adding 17 and 2 and getting 10; adding 23, 25, and 16 and getting 514; subtracting 9 from 16 and getting 13; multiplying $2\frac{1}{2}$ by $3\frac{1}{2}$ and getting 7. It may be seen that all of these problems were correctly solved after their own manner. The principle involved, however, was in each case incorrectly applied. In the first problem, for instance, $2+7+1=10$; in the second problem, $6+5+3=14$ and $1+2+2=5$. There is much need for further study of the psychological reasons underlying such errors.

It is both interesting and worth while to compare the percentages of all errors made by the various grades. This we can do with fair accuracy since the enrolments in the grades are about the same. Such a comparison is made in Table VI, the errors on both Forms I and II being used. An examination of the table reveals this situation: There is a rise in the percentage of errors from the third grade to the fifth grade and a decline in the percentage of errors from the fifth grade to the eighth grade. The concentration of errors in the fifth grade cannot be accounted for on the basis of inferior ability. Table I shows that the fifth grade is above standard on both forms of the test. It appears from an examination of the

test results that the fifth-grade pupils are at a stage in the learning of the fundamentals in arithmetic where they will attempt to do every sort of problem with a low degree of accuracy. Probably the work of the sixth, seventh, and eighth grades in arithmetic as it now stands must be devoted to eliminating the errors and misconceptions accumulated in the fifth grade.

TABLE VI

NUMBER AND PERCENTAGE OF ERRORS MADE BY THE VARIOUS GRADES ON THE WOODY-MCCALL TEST, FORMS I AND II

GRADE	ENROLMENT		ERRORS	
	Number	Percentage	Number	Percentage
III	48	17.6	396	13.4
IV	46	16.8	470	15.9
V	50	18.3	741	25.1
VI	40	14.7	486	16.5
VII	40	14.7	446	15.1
VIII	49	17.9	411	14.0
Total	273	100.0	2,950	100.0

We are further enlightened by comparing the percentages of errors made by the various grades in the case of some of the more persistent types of errors. Table VII shows the distribution of certain common errors in multiplication. Other comparisons would lead us to about the same conclusion, namely, that there is no single grade in which all types of errors concentrate. On the contrary, for certain kinds of errors there is a gradual rise in percentage from the third grade to the eighth grade; for certain other errors there is a gradual decline in percentage from the third grade to the eighth grade; for some errors there is a concentration in the fifth and sixth grades; for some errors there is a decidedly small percentage in the fifth and sixth grades; and for still other errors there is a rather constant percentage throughout all of the grades. The numbers reported upon here are rather small. The results of the distribution of the types of errors are, therefore, probably not to be taken with too much assurance. There is much reason to believe, however, that a careful study of the way in which these various errors and difficulties arise and are overcome in the various

grades would mean some very important discoveries in the psychology and pedagogy of arithmetic.

TABLE VII

PERCENTAGE OF ERRORS OF CERTAIN TYPES MADE IN SOLVING MULTIPLICATION PROBLEMS OF THE WOODY-MCCALL TEST

	Grade					
	III	IV	V	VI	VII	VIII
Incorrect multiplication	53.3	5.1	10.9	13.8	38.0	40.4
Incorrect reduction or failure to reduce	.....	1.0	16.4	17.5	24.0	2.1
Incorrect carrying or failure to carry	25.0	31.3	21.8	17.5	.....	10.6

We have left for final consideration the situation which may already have impressed the reader, namely, the large percentage of errors due to the use of the wrong process. If we examine Tables II, III, IV, and V, we find that 19.3 per cent of the errors in multiplication, 10.0 per cent of the errors in addition, 20.8 per cent of the errors in subtraction, and 11.2 per cent of the errors in division are due to the use of the wrong operation. In other words, 15.4 per cent, or about one-seventh, of the 2,950 errors made on the Woody-McCall test are due to the use of the wrong operation. The chances that a pupil will not multiply, add, subtract, or divide when he should on the Woody-McCall test are one in seven. Table VIII shows how the errors due to the use of the wrong operation were distributed over the grades.

TABLE VIII

NUMBER AND PERCENTAGE OF ERRORS MADE ON THE WOODY-MCCALL TEST DUE TO THE USE OF THE WRONG PROCESS

GRADE	ENROLMENT		ERRORS	
	Number	Percentage	Number	Percentage
III	48	17.6	37	8.1
IV	46	16.8	131	28.9
V	50	18.3	145	31.9
VI	40	14.7	59	13.0
VII	40	14.7	40	8.8
VIII	49	17.9	42	9.3
Total	273	100.0	454	100.0

Thus it is shown that the most typical wrong answers which occur on the Woody-McCall test are those due to the use of the wrong process. A pupil may solve problem No. 2 (Form I) as follows: $2\times3=5$. What we speak of here as an error due to the use of the wrong operation is just this typical sort of wrong answer. This situation cannot be accounted for on the basis of inferior ability. We are hardly safe in saying that these errors are due to "inability to recognize the sign of the operation" because there would then be no explanation of the fact that the percentage of errors due to this cause is lowest in the third grade where the signs of operation are just beginning to be recognized. In his investigations of the diagnostic value of the Woody Arithmetic Scales (in which the operations are not mixed), Theisen shows that there is .2 per cent of error in sixth-grade subtraction and 1 per cent of error in seventh- and eighth-grade division because of "inability to recognize the sign of the operation."[1] At Zeeland, with the Woody-McCall test, the percentage of errors due to the use of the wrong process was 15.4. It is fair to question, therefore, whether the use of the wrong operation one time in every seven trials represents a really normal condition.

We constructed the "Informal Arithmetic Test," shown on page 213, a test similar to the Woody-McCall test. To certain grades we gave this test with directions just as given (the same as occur on the Woody-McCall test); for other grades we supplemented the directions with the following: "There are some problems in addition, some in subtraction, some in multiplication, and some in division, but these problems are mixed up. Be very careful, therefore, that you look to see just what you should do before you attempt the problem." The tests were corrected at once, and the pupils were given their corrected test papers while we inquired the reasons for the various errors. We questioned the pupils closely for their reason for using the wrong process. The characteristic reply was, "I know I should have added [multiplied, subtracted, or divided], but the problem I had just done was a subtraction problem so I subtracted again." We found that the errors due

[1] W. W. Theisen and Cecile White Flemming, "The Diagnostic Value of the Woody Arithmetic Scales: A Reply," *Journal of Educational Psychology*, IX (December, 1918), 567–80.

to using the wrong operation on the test we constructed followed the same order as the errors of the same sort made on the Woody-McCall test; that is, so far as we could determine, wherever an error of this sort occurred, it followed the correct solution of some problem, and the process used was the one just used. Not infrequently one finds that pupils will continue over four or five problems using the same process regardless of sign. For example, one seventh-grade pupil solved by multiplication Problems 6, 7, and 8 of the test which we constructed. Problem No. 5 was a multiplication problem correctly solved by this pupil. It is worth mentioning that a very large portion of the errors of using the wrong operation occurs in the early part of the tests when the pupils are probably making great speed because the problems are easy.

INFORMAL ARITHMETIC TEST

Name_____ Grade_____

Get the right answer to as many examples as you can in 10 minutes. Do all the work on the front or back of this sheet.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Add			Subtract	Multiply	Subtract	Add
3	$3\times4=$	$4\overline{)8}$	3	32	15	19
4			2	3	7	2
(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Subtract	Multiply		Add	Subtract	
$5+1=$	17	244	$6\div3=$	25	377	$2\overline{)17}$
	8	6		33	159	
				18		
(15)	(16)	(17)	(18)	(19)	(20)	(21)
			Subtract			
$3\frac{1}{4}-1=$	$\frac{1}{4}$ of 156=	$232\div7=$	39	$\frac{5}{6}$ of 516=	$\frac{1}{6}\times3=$	$\frac{2}{3}\div7=$
			$14\frac{3}{8}$			

In one seventh grade (enrolment 20, median 26.5, Form I, Woody-McCall) where we did not give supplementary directions, there were twelve errors due to the use of the wrong operation.

In another seventh grade (enrolment 20, median 25.7), where we gave supplementary directions, there were only two errors due to the use of the wrong operation. In a third grade (enrolment 48, median 7.4), where we gave the supplementary directions for our test there were twenty mistakes due to the use of the wrong operation, while in a fifth grade (enrolment 50, median 18.6) to which we did not give the supplementary directions there were forty-two errors from this cause. These findings seem to indicate that the fact that pupils err one time in seven in performing the right operation on the Woody-McCall test is due to a cause entirely different from inability to recognize the sign of the operation.

Does the Woody-McCall test really diagnose? Does it show us the true situation with regard to the ability of the pupils in arithmetic? Is the real value of these carefully selected problems lost in the "mixing" of the processes? May it not be that other directions or another arrangement of the examples would give us entirely different diagnostic results and values? Thorndike, Zirbes, Woody, and others have noted that pupils disregarded the signs of the operations. In a situation like this, may it not be that a considerably higher premium is being placed on mental alertness or intelligence than on ability in arithmetic? Whipple[1] has found that the Woody-McCall test is of decided value in the selection of gifted children. Test I of Form B of the National Intelligence Tests makes use of mixed fundamentals in arithmetic as a test of intelligence. Can it be, then, that the Woody-McCall Mixed Fundamentals Test is mainly a test of intelligence?

CONCLUSIONS

The analysis of 2,950 errors in arithmetic made by pupils in Grades III to VIII inclusive of the Zeeland, Michigan, schools justifies the following conclusions:

1. About three-fourths of all errors made in the fundamental operations of the Woody-McCall test are due to the following causes: incorrect carrying or failure to carry, incorrect borrowing or failure to borrow, incorrect reduction or failure to reduce, incorrect placing of decimal or omission of decimal, incorrect invert-

[1] G. M. Whipple, *Classes for Gifted Children*, pp. 57–58. Bloomington, Illinois: Public School Publishing Co.

ing or failure to invert, and insufficient knowledge of the multiplication and combination tables. It seems right, therefore, to spend about three-fourths of the total time given to teaching and learning the fundamentals on these seven great sources of error.

2. The percentage of all errors made by the various grades is distributed as follows: third grade, 13.4 per cent; fourth grade, 15.9 per cent; fifth grade, 25.1 per cent; sixth grade, 16.5 per cent; seventh grade, 15.1 per cent; eighth grade, 14.0 per cent. This may indicate that we are attempting much more in the fifth grade than in any other grade. It may also indicate that with the introduction of new material from the third grade to the fifth grade there is a steady rise in inaccuracy which the following grades must spend their time in overcoming.

3. The various kinds of errors are not equally prominent in all grades. If we attempt to plot curves to show the distribution of the percentages of errors due to different causes, we find that, with the third grade as the lower limit and the eighth grade as the upper limit, some curves tend to be normal; others are skewed to the left; others are skewed to the right; others are inverted—bell-shaped; and still others are nearly straight lines. No doubt, a more careful and extensive study of the distribution of these various errors with larger numbers of pupils would throw a great deal of light on the psychology and pedagogy of arithmetic.

4. The most typical wrong answers are those due to the use of the wrong process, 15.4 per cent of the errors being of this type. For the various grades the percentages due to this cause are as follows: third grade, 8.1 per cent; fourth grade, 28.9 per cent; fifth grade, 31.9 per cent; sixth grade, 13.0 per cent; seventh grade, 8.8 per cent; eighth grade, 9.3 per cent.

5. The wrong answers made by using the wrong operation on the Woody-McCall test are undoubtedly due to the way in which the tests are constructed and administered rather than to inability to recognize the sign of the operation.

6. For the reason just mentioned, the diagnostic value of the Woody-McCall test may not be so great as would otherwise appear. It is quite possible that a higher premium is placed on mental alertness than on ability in arithmetic.

A SUMMER REVIEW ELEMENTARY SCHOOL RESULT

VINCENT A. KEENAN
Dorchester Summer Review Elementary School, Boston, Massachusetts

In 1913 Boston began an experiment to try to reduce the number of "left-over," unpromoted, and retarded children who seemed to be clogging the school system every year. The conclusion was reached that hundreds of pupils were being forced to repeat the work of a year either because of illness or because of disinclination and that this repetition meant inefficiency and greater cost per pupil.

To try to overcome this inefficiency and waste, the school committee decided to open summer review schools for the retarded pupils. Assistant Superintendent A. L. Rafter was placed in charge of the work. Under his direction, six review elementary schools and one review high school were opened. The number of review elementary schools has since been increased to ten, so great has been the number of registrants.

The organization of the schools has been perfected by the various officials who have been in charge since the schools were started in 1913, and they are now considered an integral part of the Boston school system.

During the past summer Superintendent Burke organized a new type of summer review elementary school in the North End district of Boston. The polyglot immigrant population that is located there is a problem that had been under consideration for some time, and a summer review elementary school with an elastic curriculum was finally decided upon. In addition to the regular work carried on in all of the summer review elementary schools, activities of the playground and constructive type were undertaken. This extra work was optional for those pupils who wished to take advantage of it. It was made pleasing and interesting and did not fail to attract them. The dominant purpose of the school was to try to keep the children off the congested streets during the hot days by getting them absorbed in interesting activities. The school

was open morning and afternoon during all of the past summer and seemed to meet the purpose for which it was established.

Table I shows the results attained by the pupils registered in the Dorchester Summer Review Elementary School in the summer of 1923. This tabulation is undoubtedly typical of any of the other nine summer review elementary schools in the city.

TABLE I

	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Special English	Total
Number of pupils enrolled	154	127	125	203	114	29	752
Number of pupils leaving before completion of work	28	13	4	25	18	3	91
Number of pupils completing work	126	114	121	178	96	26	661
Number of pupils taking 2 subjects and passing in 2 subjects	101	82	96	133	54	.....	466
Number of pupils taking 2 subjects and passing in 1 subject	14	17	19	25	23	.....	98
Number of pupils taking 2 subjects and passing in 0 subject	8	8	4	4	8	.....	32
Number of pupils taking 1 subject and passing in 1 subject	3	7	2	16	9	21	58
Number of pupils taking 1 subject and passing in 0 subject	.....	.....	.....	.....	2	5	7
Total	126	114	121	178	96	26	661
English:							
Number of pupils passing	91	80	56	107	58	21	413
Number of pupils failing	9	9	10	9	9	5	51
Mathematics:							
Number of pupils passing	87	73	86	114	42	.....	402
Number of pupils failing	19	17	11	21	19	.....	87
Geography:							
Number of pupils passing	34	38	29	44	21	.....	166
Number of pupils failing	2	4	4	1	6	.....	17
History:							
Number of pupils passing	.....	.....	41	40	19	.....	100
Number of pupils failing	.....	.....	.....	4	7	.....	11
Penmanship:							
Number of pupils passing	5	.....	1	.....	.....	.....	6
Number of pupils failing	2	.....	2	.....	.....	.....	4
Total	249	221	240	340	181	26	1,257

CONCLUSIONS

1. The total number of pupils completing the work—661 out of 752 registered—would seem to prove unmistakably the need for summer review schools in any city.

2. Two subjects seem to be about the proper amount of work for each pupil to attempt.

3. The small number of failures is accounted for by the high degree of efficiency of the specially selected corps of teachers and by the fact that the subnormal or hopeless type of pupil is excluded.

4. The large number of pupils who are compelled to make up work in English and mathematics would seem to indicate that these subjects ought to be stressed more in the regular elementary-school curriculum.

5. No help was offered in the foreign languages for the reason that the pupils who failed were advised to give up these subjects and change to other subjects.

6. The large number of pupils registering and finishing the work means that many children are really attending an all-year school of their own free will.

7. Those who leave before completing the term do so mainly, not through any fault of the school, but to go on vacations with their parents who are unable to go away and leave them at home.

8. The following conditions would seem to indicate that no community would be making an unprogressive step in operating summer review elementary and high schools: the continued good health of the pupils; the low cost of plant operation, no artificial heat being required; the absence of the so-called disciplinary cases; the continued use of the school plant; the voluntary sustained interest of the pupils.

A GRADING AND PROMOTION PLAN BASED ON THE USE OF INTELLIGENCE AND EDUCATIONAL TESTS

FORD R. PARK
Supervising Principal, Public Schools, Hamburg, New York

In these postwar days we are hearing a great deal about the democratization of our educational systems, and the attacks on the existing organization seem to be centering around the idea of equalizing educational opportunity. I therefore submit the following account of a grading and promotion program, based on the use of intelligence and educational tests, with the hope that it will contribute a little to advance along this line.

Equality of opportunity translated into terms of school organization requires that each child be given the opportunity to progress at his own pace through the courses of study which provide the common integrating education which should be the possession of all "without regard to sex, social status, or future vocation" and which are also adapted in method and material to the varying needs of different types of children. Such a program of grading obviously requires the dividing of the children into groups based on ability to progress at approximately the same rate. In securing such groups the use of intelligence tests has been helpful to us. Such a grouping is fraught with many difficulties in a small community, unless it can be shown to teachers, parents, board of education, and the general public that the grouping is being done on a sound basis. Even then, the divisions are seldom clear cut, leaving a number of children concerning whose position we cannot be too positive.

We use, for the purpose of grouping our pupils, the intelligence test plus teachers' judgments. We further check the teachers' judgments of ability to achieve by the use of the so-called standard or educational test. At the outset I wish to say that such a program of proper grouping can be achieved satisfactorily, in my opinion, only when provision is made for a teacher with sufficient time free from regular teaching duties to attend to this work in the way its

importance deserves. I do not believe that a principal in charge of an entire village school, driven by a multitude of administrative duties, can himself carry out such a program successfully, even supposing him to be adequately trained for it.

We have been fortunate in Hamburg in securing the services of a teacher with wide experience in handling children of all ages and with the rare devotion and zeal necessary to learn the procedure of mental testing and the handling of atypical children. Added to the teaching staff originally for the purpose of working with individual children in the first six grades—a need which had developed from the oversized condition of the grade rooms—this teacher has filled this need and more.

A program of ability grouping likewise needs the understanding and sympathetic co-operation of the classroom teachers. In this respect, too, we have been especially fortunate in Hamburg in having such a large percentage of the teaching staff who have made the principles of pedagogy and psychology underlying such work a part of their educational philosophy. The teacher who has had the experience of teaching a homogeneous group under this plan never will be content with the usual motley array of alphabetical assignments or with pupils grouped by any other plan. The old argument that the slow child needs the stimulus of the bright child is about as valid as that the distance runner receives inspiration by competing with a racing automobile.

Using the mental age obtained by the use of the intelligence tests as the basis for grading and the I.Q. as the basis for prediction, we are enabled to place children in the grades and groups which are going at the pace best suited to their ability. This makes for economy of effort on the part of the teacher. Thus, a number of children who were found by these tests to be clearly below the level of five years and six months have been shifted to the kindergarten. The teacher who was trying to teach them to read was attempting the impossible and was taking time which, if applied to pupils who legitimately belonged to the reading class, could have produced results.

The most satisfactory return which this method of grading has yielded has been that resulting from the application of the knowledge of mental capacity to the cases of the exceptionally able children.

In case a child is discovered in a given grade with a mental age justifying his promotion to a higher grade, the teacher in charge of this work first confers with the parents to get their consent for promotion, then takes the pupil to her room for certain hours each day, and bridges the interval between his group and the next higher group, so that nothing of importance in the subject-matter of the course of study, in those subjects which have continuity, is omitted. It has been our experience that these children not only make a success of their work in the next grade, but very soon lead the grade into which they go.

With such a plan in common use, promotion becomes a daily and not merely a yearly or semi-yearly consideration, the ability to do the work of the next grade alone constituting the basis therefor. We have been amazed at the way the children work for such an immediate reward in contrast to the rather indifferent attitude toward promotion next January or next June. Counting the cost of a year's schooling at $80 per child, this teacher, in promoting successfully forty children in a year, has saved over twice her salary to the district.

Further provision is made for groups of exceptionally able children by enriching the course of study for them; that is, by giving them more of the same kind of work. For example, while a child in one fourth-grade group might be required to learn "The Village Blacksmith," "The Children's Hour," and "The Windmill" as selections from their grade poet, a child in another fourth-grade group would be expected to learn only "The Village Blacksmith" and "The Children's Hour"; in a third group doing fourth-grade work only "The Village Blacksmith" is required. The new syllabuses are rich in suggestions of this optional material, as they should be. Teachers generally have failed to realize the extent to which it is possible to broaden the course or to speed it up in order to supply certain groups of pupils with work equal to anything like their full capacity. The effect of this failure is to convert a pupil into an indolent and sometimes a mischief-making individual, simply because he is not given enough to do to keep him busy.

We thought at first that we could divide each grade into three groups—rapid, normal, and slow—and then set definite goals for

each group. We soon found that such a rigid division and plan of progress was impracticable, for the reason that not all slow groups are equally slow, and not all rapid groups are equally rapid. Likewise, different teachers are able to achieve different results with the same group. In a small school system it is possible to keep track of the different groups and plan for each separately. It is very necessary, however, to check up the position of these groups carefully from time to time, especially at the time when they move on to the next teacher. A careful statement of the position of each group in the course of study in each subject, of the matter needing review, and of the next new matter which would be taken up if the same teacher were to have that group again, is required at the end of the school year to be filed in writing at the office.

The question of naming the different groups and rooms is a knotty problem, because it goes without saying that no stigma must be fastened on any child or group. Those who have opposed this plan have seized upon the disadvantage of marking some pupils as inferior and have made a great deal of it. The best answer to the critics is that the children themselves like to be grouped with children who do not outshine them in brightness; they like the opportunity for leadership within their own group which would never come to them if grouped with the abler children. Experience demonstrates conclusively that many of these slower children are going to succeed in some field of human endeavor after they leave school. Do we not owe it to them to provide a school in which they will succeed? They deserve to have a taste of that character-building sense of achievement and success which would be denied them if they were held up to the pace of the abler group. Then, too, they must some day come to recognize their limitations. It is a kindness for the school to reveal it to them in this milder way rather than to leave it to the crueler method of compelling them to compete with those with whom they will never be called upon to compete in real life; after they leave school their paths will diverge so far that competition is unlikely. Because of the wish to handle these children as tactfully as possible and especially to relieve them of the embarrassment of jibes from their fellows, we have decided not to call them IA and IB, IIA and IIB, or other terms in common

use, but to call them by the name of the teacher—Miss Tyler's first grade, etc. Of course, we know the kind of children in each group, but it should be regarded as confidential information by the teachers. I believe the name of the grade into which the child goes should be such as to show progress. Thus we have been calling a group a fourth grade which will do very little fourth-grade work until the end of the year. To distinguish between a slow group actually doing sixth-grade work but called sixth-graders last year and the seventh grade of our junior high school, we have coined the term "seventh preparatory"; they will do some seventh-grade work before the end of the year and should be able to do regular seventh-grade work next year.

Another problem difficult of solution with which we have to deal is that of school marks and report cards. Should a mark of 90 in a slow group signify the same accomplishment as a mark of 90 in a rapid or normal group? That is, should all groups be given marks on the same scale or measuring rod? Obviously, this cannot be done if we are going to promote liberally, as we plan to do, and at the same time make school marks the standard of promotion. We are at present giving percentage marks based on 75 per cent for passing and 90 per cent for honors within each grade group without reference to any other group or to absolute standards. In distributing these marks, we try to approximate the normal distribution. We expect to put into use soon a report card which will show in a simple way the central tendency in each subject of the group with which each child is placed; that is, the middle mark in the quarterly examination in arithmetic, geography, etc., will be reported. Furthermore, since the parent is entitled to know something of the variation from the central tendency which the class shows, as well as his child's place in this distribution, we shall report the quarter of the class with which the pupil was ranked.

It will occur to some who are evaluating this plan that there are inherent difficulties which will be hard to overcome, and so there are. One of these is the danger of the teacher mistaking overlearning for progress. With the best of grouping, there will be several in each group who will be much slower than others to acquire a given piece of subject-matter. The tendency of the teacher of a

relatively homogeneous group is to try to keep an even front in achievement and to hold the very able children back or ignore them while patiently working with the slower ones. Even with a very homogeneous group it is impossible to secure uniformity of achievement. However, it should be axiomatic that in a thoroughly democratic school system each teacher owes each pupil *equal* time and energy. This means a constant flattening and spreading out of the frequency curve. The distribution must be corrected by promotions from time to time, by demotions, and by individual help from the special teacher.

Another danger lies in exactly the opposite direction; that is, in being satisfied with superficial mastery. How are we going to strike the balance in degree of mastery? The answer to this question is the standard or educational test. When a grade that has been doing fourth-grade work for ten months scores up to a fourth-grade June standard as measured by some accepted scale or test, it is shown by that fact to have attained the degree of mastery which it should reach. If the grade is too far below the standard, this fact is evidence of superficial mastery; and, if it is too far above, overlearning is shown. In too many schools the product of instruction is not measured at all until the end of the elementary course. The standard test gives us a means of measuring educational outcomes in time to apply a remedy if necessary.

The most valuable use of the standard or educational test, however, lies in its application to the individual. What has the school done for this boy or this girl by a certain age in securing mastery of the fundamental operations in arithmetic? Can he read understandingly as well as he ought to read at that age? Has this child's achievement measured up to what should be expected of him because of his intelligence rating? The recent movement to translate grade standards into age norms is destined to give us a basis for judging of the thoroughness of instruction and of the degree of mastery far more reliable than either teachers' judgments or grade norms, because the teacher is prejudiced by contact with the pupil's personality, and the grade norms may set the promotion hurdles too high or too low. It is hard to see how anyone who has any acquaintance with the studies of teachers' marks which have

been made in late years can be complacent in his faith in the infallibility of these marks. Individual teachers' standards will differ as long as human nature is what it is, and because of this fallibility any system of promotion and grading needs the guidance of education's scientifically accurate measuring rod, the standard test.

Let me be more specific about the procedure which we adopt. When we find that a child who has demonstrated an I.Q. of 125 (i.e., capacity to achieve a quarter more than normal) only scored an A.Q. in reading, or arithmetic, of 90 (and we sometimes find as wide discrepancies), we ask ourselves what can be the cause of this difference between his actual achievement and his demonstrated ability to achieve. Sometimes we find that his habits of concentration or of study are in need of attention; sometimes we find that he has a health defect which is militating against his success. It is then our job to correct this defect. If there is anything to the doctrine that the child born short in ability in certain subjects and long in others is really extremely rare, then the teacher finds a challenge in every child whose pedagogical chart shows great irregularities. Many times the character of the mistakes made on the tests discloses the causes of failure. In this diagnosis of causes of poor work we have barely scratched the surface of possibilities in the uses of the standard test. It is doubtless true that this phase of the use of standard tests will be the last to be developed as it is the most intricate.

We have encountered many difficulties which are interfering with the proper development of our plan. All of our teachers have too many children in their care, the abler groups averaging forty pupils and the slower groups thirty-two. We also have verified by the use of the Terman tests what we already felt sure of—that we have about sixteen children retarded three years or more mentally who should be placed in an ungraded class for the special type of instruction by which they will benefit. At present, they are not only a trial to their teachers and in some cases a menace to the morals of the other children in their rooms, but also a burden to themselves.

We have placed tables in the rooms containing these slower children to enable the teachers to provide them with some hand

work like painting and also certain sense-training materials which they so badly need. To avoid embarrassment, all of the children are allowed to go to the individual table to manipulate these materials at times. The teachers of physical training and manual training are giving these rooms special attention. This seems to be the best that we can do until such time as we can provide for them adequately in special classes, for which we lack the room at present.

As a result of our preliminary work, we know exactly what our situation is and shall be prepared to elaborate our plan when we have the room. Because the number of children of from 70 to 90 I.Q. is large and the number below 70 comparatively small, we feel justified in using the teaching time of the special teacher, first, for the pupils from 70 to 90 who need the benefit of careful and sympathetic individual treatment and, second, for the exceptionally able children who are being promoted to more advanced groups. The ordinary classroom procedure is adequate for the third group of normal children of 90–110 I.Q.

We feel that, in proceeding along the lines indicated, we have made a start, at least, on the problem of grading and promotion on a sound and democratic basis. It is our earnest hope that eventually we shall develop an organization which will succeed in administering this problem with even-handed justice to all of the children of all of the people.

Educational Writings

REVIEWS AND BOOK NOTES

The practical use of intelligence tests in the classroom.—It is an obvious fact that both the development of the psychological theory underlying the testing of intelligence and the thoughtful readjustment of school conditions following such testing have failed to keep pace with the administration of mental tests in the schools. The continuance of such a relationship can lead only to an unprofitable routine of mechanical testing. It is apparent that psychologists have already sensed this fact and that they are undertaking a more critical analysis and interpretation of the testing movement. Public-school workers have been somewhat slower in seriously considering those readjustments which follow the logical application of test results taken at their face value. The schools which have gone perhaps farther than any others in the use of mental-test results are those of Oakland and Berkeley, California. A book[1] written by the man who has had direct charge of the testing work in these cities will, therefore, be read with particular interest.

After three brief preliminary chapters, the author plunges directly into his problem. His point of attack is the matter of pupil classification. This leads him directly to the crucial question of the constancy of an I.Q. and "Who will succeed in school?" In this discussion Dr. Dickson wisely avoids a controversial treatment by holding strictly to the facts which are available and making a series of direct statements of the conclusions to which they lead. Separate consideration is given to the use of tests in the primary, intermediate, and high-school grades as well as to the problems involved in dealing with the inferior child and the superior child. Other problems considered are the training of teachers to give mental tests, various administrative plans growing out of the use of tests, and, finally, the place of mental tests in a modern educational program.

The author takes a definite position which he defends vigorously throughout the book. Among other things, he advocates the direct use of test results in the classification of pupils, the consideration of factors other than academic standards in pupil promotion, and the modification of the curriculum to meet the needs of different types of children. With regard to classification, the author suggests five types of classes to which pupils are to be assigned according to several factors, among which mental age, brightness (I.Q.), and accomplish-

[1] Virgil E. Dickson, *Mental Tests and the Classroom Teacher*. Yonkers-on-Hudson, New York: World Book Co., 1923. Pp. xvi+232.

ment are foremost. The five types of classes include accelerated, regular, and limited classes for pupils who are superior, average, or inferior in general intelligence; atypical classes for pupils of the border-zone type of intelligence; and opportunity classes for those who need to make up work or correct special difficulties.

In discussing the needs of mentally inferior and failing children, Dr. Dickson makes the following statements:

> There is only one way in which the public school can adequately meet the problem, and that is through a differentiation of courses of study and standards of attainment. . . . . The general opinion of educators has been that the work of the elementary school for at least six grades, and possibly for eight, is fundamental and should be required of all pupils alike. It is our belief that this conception must change. As a result of the compulsory attendance laws, we must now teach many children of a type not formerly held in school. As our immigration has increased, our school problems have been multiplied by difficulties due to language, customs, ideals, and environmental influences. We face the fact that our curriculum and our time allotments, which were originally formed for a select group, are not suited, even in the elementary schools, either to the needs or to the abilities of a large proportion of children. . . . . We believe the answer must come, and that it will lead us to accept the mastery of a few of the essential features of the curriculum in the elementary grades as sufficient to justify us in allowing certain children to pass on to the upper grammar grades, to the junior high school, and even to the senior high school for whatever types of work they can do effectively [pp. 131–32].

In chapter vii there are a number of graphs giving profiles of pupil achievement in various school subjects, such as arithmetic, reading, spelling, etc. The achievement profile, given in terms of subject age, is to be compared with a capacity measure which is drawn simply as a horizontal line at the level of the child's mental age. While the reviewer will agree fully that "mental tests and accomplishment tests must be used together" (p. 117), he is not convinced of the validity of comparing a detailed subject profile with a line showing mental level and making the apparent assumption that achievement should equal capacity in every respect. If capacity is to be expressed in gross terms as mental age, achievement should likewise be represented by an average subject age. However, the expression of both achievement and capacity in terms of a profile line would be much more meaningful—a fact which emphasizes the need for a capacity measure which is more analytical than gross mental age.

The book gives evidence of sane but progressive thinking throughout. It will answer many questions for the individual concerned with the application of test results. It represents a point of view which, in the reviewer's judgment, is inevitable in a democratic school system.

G. T. Buswell

Methods of teaching arithmetic.—There is danger in all fields of scholarly investigation that contributions of consequence will remain hidden away in the archives of learning for want of a suitable spokesman and interpreter.

The danger increases with the expansion of research. It would not be difficult today to list a hundred articles and monographs of scientific value dealing with the problems of arithmetic instruction. If our research is to function, the findings of these studies must be brought to the school supervisor and teacher and incorporated in the practice of the classroom. The author who locates this material, selects judiciously, interprets wisely, and contrives a truer pattern for our teaching endeavors will not lack for honor and a hearing.

Professor Lennes, of the University of Montana, after experience as a writer of arithmetic texts, now publishes a volume[1] on methods of teaching arithmetic. The book is divided into two parts, Part I being devoted to the applications of certain general methodological principles; Part II, to special methods. The discussion of general principles includes such topics as formal discipline, methods of learning and teaching, and motivation. In the portion of the book reserved for special methods, the author endeavors to answer the following questions:

> What are the main purposes to be achieved in a school course in arithmetic? How should the fundamental combinations be learned? How should the fundamental operations be learned? How should the solution of problems be developed? . . . . How may arithmetic be socialized? What are the needs of arithmetic in the home and on the farm? How may the teacher test the results of her teaching? (p. vii).

The second part of the volume is much the more important of the two parts, and to this the author has fortunately given about two-thirds of his space. It is regrettable that a chapter was not devoted to the principles of curriculum-making and the results of scientific studies relating to the content of arithmetic courses. Since reading this book, the reviewer is more than ever convinced that the problems of teaching arithmetic cannot be satisfactorily handled without an adequate consideration of the problems of curriculum-making. Throughout the book comment on subject-matter is found, and opinions are expressed, but no adequate body of principles for curriculum construction is presented, and little use of the results of curriculum studies is observable.

In the discussion of the addition and multiplication combinations, account is taken of some of the important investigations. The author is apparently satisfied with the traditional forty-five combinations if provision is made for reversal. The present tendency, however, is to go a step farther and include zero in the list of numerals to be combined, in which case the number of combinations is one hundred.

Professor Lennes, in line with a number of authorities, lends his support to the Austrian method of subtraction. In the opinion of the reviewer, the experimental and statistical studies of the subtraction problem do not justify a confident belief in the superiority of the additive method.

The chapter on "The Solution of Problems" is commendably suggestive in a phase of arithmetic where much light is needed. A method is proposed

[1] N. J. Lennes, *The Teaching of Arithmetic.* New York: Macmillan Co., 1923. Pp. x+486.

of classifying verbal problems into a relatively small number of types and bringing about a more effective connection between these types and the formal processes. No objective data on the value of the method are provided.

Nearly one hundred pages are set apart for the discussion of discount, profit and loss, commission, interest, savings and investments, stocks and bonds, banks, etc., the principal aim being, and rightly so, to make the business practice in each case clear.

A treatment of standardized tests for the measurement of computational skill and reasoning ability is allotted six pages near the end of the volume.

The book is interestingly written and contains a considerable body of helpful illustrative material.

FREDERICK S. BREED

Intelligence testing in all of its aspects.—Teachers of college courses dealing with mental testing, as well as workers with tests, have long felt the need of an authoritative and comprehensive book covering the whole intelligence-testing field. Professor Pintner's new book[1] is the answer to this need, and an admirably satisfactory answer. Few men are better qualified to undertake such a task than the author, active as he has been for so long in many phases of this work and skilled, as this book proves him to be, in saying clearly a great deal in a little space.

The first three chapters give an enlightening survey of the historical background of intelligence testing, including a somewhat detailed account of the events in Binet's own career which culminated in the first successful general intelligence scale. Following this is a chapter on the concept of general intelligence. In this chapter Pintner quotes many definitions; summarizes various theories of intelligence, its nature and growth; states the essential criteria of an intelligence test; and discusses concisely some of the many technical points involved in the distribution of intelligence and its quantitative rating.

The two chapters of Part II summarize the content and organization of the numerous tests and scales, both individual and group, which have found any considerable use in this country. The commonly recurring types of test-content are illustrated, although none of the scales are reproduced in detail. Tables of norms and classified lists of tests with their publishers make this section of considerable value.

Part III is devoted to the applications of tests and test results to a wide range of practical problems, educational, social, and industrial, and also to numerous special classes—the deaf, the blind, the foreign-born, negroes, and others. Extensive bibliographies at the end of every chapter of the book, with a wealth of references in the body of the text to the original work done, as well as a detailed index of topics and names, make the book a useful guide to anyone interested in following out special phases of test-research. The book closes

[1] Rudolf Pintner, *Intelligence Testing: Methods and Results*. New York: Henry Holt & Co., 1923. Pp. viii+406.

with a chapter summarizing the studies, from the time of Galton on, which stress the hereditary aspects of general intelligence. It seems to the reviewer, however, that Professor Pintner might well have given more attention to the demonstrated influence on test scores of training, nutrition, environment, and other non-hereditary factors. It seems, too, that the assumption that ability in test performance—certainly in large measure the product of formal or informal education—is an accurate index of the individual's relative inherited capacity, should have been definitely recognized for what it is—an assumption, still open to criticism.

The book presents an admirably comprehensive and concise summary of the important work done in this field. While clear, straightforward, and readable in style, it does not, fortunately, attempt to be "popular." Nor, on the other hand, does it make any attempt to explain the complicated technique of test construction and standardization or to go far into the intricate issues involved in test-theory. It is pre-eminently a "first book." The reviewer believes that it will take its place promptly, as it deserves to, as one of the valuable contributions to the general literature of mental measurement.

FORREST A. KINGSBURY

Problems of the rural school.—Ever since the report of the Roosevelt Country Life Commission the problem of rural education has been more or less insistently demanding attention. Books have been written about it, and federal and state governments have published numberless bulletins designed to contribute to its solution. The demand for vocational education has added another factor to the already involved situation. And still the problem is as acute as ever; still the country schools are found to contain multitudes of children whose educational opportunities are exceedingly limited; still untrained and untutored teachers give instruction in them; and still young men and women leave the farm for the more attractive conditions in the city, in spite of consolidations and the enrichment of curriculums designed to yield a more contented rural population. There now appears another book[1] dealing with the problem.

The contribution of the book is a clear statement of what is becoming so generally recognized—that the education of children in the country must be essentially the same in spirit and purpose as the education of children in the city and that the limitation of curricular subjects to those designed to prepare for, and keep the country boy and girl on, the farm is based on a false conception of the requirements for wholesome social evolution. In this position the author finds his support in quoting freely from Dewey's *Democracy and Education* and in applying the social philosophy which that book expounds.

The narrow and strictly vocational function of rural schools is illustrated by numerous quotations from many writers. Similarly, a larger view of rural

[1] Orville Gilbert Brim, *Rural Education.* New York: Macmillan Co., 1923. Pp. xxii+302.

education as a phase of the requirements for the perpetuation of democracy is shown by quotations and discussions from those who hold to that position.

The purposes and functions of rural education are evaluated in terms of "The Good Life." The discussion seeks to define such a life with respect to its psychological, ethical, and social aspects. The outcome may be presented in a quotation:

> Whether we view life, then, from its personal or its social aspects, growth and progress both demand a highly socialized environment, a situation where social contacts are many, where interaction between groups is free and breeds open-mindedness, a progressive attitude, a vivid imagination, a variety of interests, a social consciousness, an environment that develops socialized ends, and one where the wealth of human achievement representing the pooled intelligence of the ages is made available for all. Here would be found the fullest self-expression, social service, and the most profitable social progress [p. iii].

Rural life is then analyzed for the purpose of determining the social, economic, and educational factors which now exist and which must be reckoned with in any effort to educate toward "the good life." Present limitations are pointed out, and arguments are presented for a more generous interpretation of what constitutes rural education. The socialized position of the author is indicated as follows:

> On the whole, however, their realization [desirable conditions] is dependent upon a larger organization than the local community. Child growth demands a closer relation between town and country. Both must co-operate in the upbuilding of rural life. The larger opportunities and satisfactions of the town must become the heritage, as they have been the product, of town and country alike. Rural and urban antagonisms must pass. Co-operation, friendship, and mutual respect must take their place. Only in this way can the limitations of the rural child be removed and his freedom made fruitful [p. 194].

The latter part of the book is a summary of the points made in the preceding sections, with their application to the problem of rural education. The position is taken that the purpose of rural elementary education is the same as the purpose of elementary education anywhere. The environment of the rural child makes essential the use of different materials in so far as the starting point is concerned, but the outcome to be striven for is, in the main, the same for all children. In discussing the arguments of the strict vocationalists, the author's contention is as follows:

> They ignore the fundamental task of elementary education which is to make the child a member of society in the fullest sense. They aim, from the first, to make him a member of a group. They emphasize differences, the qualities wherein his parent group is unlike others, instead of strengthening bonds which unite him to all peoples. They center his attention upon local problems instead of creating interests for him common to the groups with which he must co-operate [p. 210].
>
> As formerly shown, rural life, while rich in possibilities, does not furnish a complete educative experience in itself. The life of the child must be still further enriched. He must be flooded with varied suggestions and brought into touch with many aspects of living [p. 213].

Applications of the principles developed are made with reference to the curriculum, the organization of the rural school, the principles of teaching, and the preparation of the teacher. The curriculum must be fluid and grow out of the needs of the group concerned, thus quite unlike the state-dictated and static type usually found; the school must be organized to make provision for the development of the richest of social opportunities; the problem-project method is advised since the life of the child offers a peculiarly well-suited situation for its application; the teacher is not to be trained primarily in those subjects vocationally related to country life.

The book is the first of a series edited by Mabel Carney, "new in fact and philosophy, as well as in name." The philosophical contribution is well stated in this first volume, which deserves a place in the hands of teachers and administrators who are in any wise concerned with rural schools. In fact, anyone interested in the large problems of education may well read it.

RALPH E. WAGER

EMORY UNIVERSITY

Library readings for psychology.—One of the pressing problems of the normal-school or college instructor of psychology is that of providing sufficient supplementary readings to support the textbook which is used. The current emphasis on library courses has shown the superiority of these over the purely textbook method of teaching. Many institutions, however, experience great difficulty in securing sufficient material to meet the needs of large classes. A recent compilation[1] of reference material will go far toward supplying such readings.

The authors' purpose in assembling these references is clearly expressed in the following quotation from the Preface:

> We are publishing this volume in the belief that the student beginning the study of psychology can profitably read much more material than is commonly assigned him. It is hardly the purpose of a first course to train the student to such a point that he can read the technical articles of the psychological journals, but he should have enough practice to enable him to read with intelligence the more general literature of the subject, whatever its point of view. But the accomplishment of even this latter purpose is becoming increasingly difficult. Our elementary courses contain so many students that library assignments are in many cases all but impossible. In light of this fact, we feel that instructors will welcome a single volume which contains an ample and representative supply of reading materials.
>
> Such a volume has an advantage over a library reserve shelf in that the students will not be discouraged by being unable to reach their assignments when and where they find it convenient to study. It has an advantage over a second textbook in that it contains more than another, often conflicting, system of description [p. v].

The selections in the volume are organized around the major topics of general psychology. The topical arrangement is similar to that of the more

[1] Edward Stevens Robinson and Florence Richardson Robinson, *Readings in General Psychology*. Chicago: University of Chicago Press, 1923. Pp. xvi+674. $4.50.

widely used American texts. In the choice of material the authors have undoubtedly grouped together a strong body of readings which are representative of the best thought on the subjects concerned. The book gives evidence of excellent judgment in the combining of the many references into a logical organization. Thought exercises follow each selection, which add to the instructional value of the book.

The book will certainly be of interest to instructors of psychology in teachers' colleges and departments of education. Incidentally, it suggests a method of meeting a similar need for extensive reference material in certain education courses.

G. T. BUSWELL

New series of primary readers.—In preparing a new set of readers[1] Miss Bolenius has undertaken a large task. Not only has she prepared readers for the primary grades, but in her manual she works out clearly and definitely a comprehensive program for all of the varied reading activities of the first year. The primary teacher will find the manual replete with helpful suggestions. Moreover, the author does not attempt to "put over" any special method, so that her work does not invite controversy.

The children's books contain much excellent material in the way of stories and poems, and the illustrations are charming. The direct association made between nouns and their illustrations is well worth while. Occasional pages are given to exercises in following directions, choosing between opposites, and finding non-sense statements, such as are suggested by many of the standardized tests. No attempt is made to relate this work to the stories in the book. At intervals, also, test pages are arranged, by means of which teachers can check up their classes. This will be a decided help to the teacher inexperienced in modern testing.

The manual is much more detailed and contains many more method suggestions than the average manual. Moreover, it presents some thirty pages of poems and stories to be used as supplementary material. The emphasis placed on reading in connection with activities and projects is helpful. The suggested plan for combining supplementary readers with the basic text is in line with the practice of many experienced teachers. The checking up of the vocabulary by Thorndike's *The Teachers' Word Book* is a step in advance, though the more recent studies also include the vocabularies of supplementary texts in evaluating words.

Miss Bolenius has a workable plan for varying group reading according to the varying abilities of the children. One may question whether this is

[1] Emma Miller Bolenius, *The Boys' and Girls' Readers*. Primer, pp. viii+120, $0.60. First Reader, pp. viii+120, $0.60. Second Reader, pp. x+214, $0.72. Third Reader, pp. x+246, $0.76. First-Grade Manual, pp. l+462, $0.88. Boston: Houghton Mifflin Co., 1923.

the best plan of grouping, but there is no doubt that small groups must be provided for adequately in the schools of the future.

Many devices and drills are described which will be of value. Some games are also given. Unfortunately, the term "game" is used to cover all of these activities, as is frequently done by many writers. One questions, also, whether the idea of eye-sweeps is really made clearer by substituting curves for the straight lines used in all literature on the subject. Whether the use of patterns is to be encouraged because of the use of certain silent-reading devices may also be questioned. But these are details. The manual contains a body of valuable material treated in a clear, simple style.

FRANCES JENKINS

UNIVERSITY OF CINCINNATI

Speech defects.—A recent school survey of a city with a school population of 24,000 children showed that one child out of every seventy-eight was affected with a more or less serious defect of speech. One is also informed that in certain of our larger cities, where stuttering and lisping have been made subjects of special school treatment, 80 per cent of the children so afflicted have been cured. Since the difficulty is primarily mental rather than physical, the educational treatment is logically a duty of the school. However, the majority of school teachers are lacking in specific knowledge as to how to attack the problem. The best source of information in this field has been the text by E. W. Scripture, which has this year been revised and enlarged by the addition of a body of material dealing with the speech of the deaf.[1]

The book is divided into four parts. Part I deals with stuttering, its causes, symptoms, diagnosis, and methods of treatment. Part II is concerned with lisping, the various forms being treated in great detail. Part III gives detailed exercises for 123 lessons grouped around eighteen specific abilities to be developed. Part IV describes some new methods of correcting the speech of the deaf.

The book will be of interest to two groups of school people. The first and larger group will be made up of those who are attempting to deal in a practical way with the speech defects of pupils in their schools or classes. For these, the book is at present the best manual available. The other group which will find the book worth examining is made up of students of experimental education. The methods of analysis and the special apparatus employed are very suggestive for uses other than those for which they were intended. Since speech is such a common form of response for many educational processes, an apparatus which records it accurately in a permanent record has obvious educational applications.

In commenting on the nature of stuttering and the possibilities of treatment, the author writes as follows:

[1] E. W. Scripture, *Stuttering, Lisping and Correction of the Speech of the Deaf.* New York: Macmillan Co., 1923 [revised]. Pp. xviii+290.

Stuttering is a disease of the mind, not a defect of the body. Comparison of stutterers with persons having other mental peculiarities shows that the trouble is connected with the emotions. It is a psychoneurosis whose essential is the unconscious desire to avoid human society and whose mechanism consists in using ridiculous speech as a means of attaining the desired isolation. The deeper cause varies from case to case.

As it is a mental trouble, its treatment must be entirely mental. The various exercises are all designed to be used as a means of restoring confidence in speech. . . . . Success is obtainable by exercises in the hands of a teacher whose personality inspires the children with confidence and who recognizes that the benefit does not come from the exercises but from herself [pp. vii–viii].

Suggestions for instructors in elementary English.—Perhaps the most significant single fact about the many manuals which have appeared within the last few years for teachers of English in the elementary grades is their agreement on the objectives of English instruction and on the methods to be employed in their attainment. Almost invariably the writers have emphasized oral rather than written composition, have postponed intensive drill in grammar, and have made large use, in one way or another, of the results of investigations of pupils' errors in the use of English.

A clear statement of this position is given in the Preface of a new manual,[1] intended for teachers of English in the first three elementary grades.

All successful work in English composition, whether oral or written, is based on the formation of correct language habits by daily practice. Helping a child to understand that an expression is incorrect does little, if anything, towards overcoming his bad habit; a knowledge of grammatical rules will not cause a child to employ accurate English. Only as he uses the proper expression often enough to make it his own . . . . will he use, in his unconscious choice of language, better English. In the upper grades the study of grammar will confirm and strengthen good habits already formed in the grades below, but grammar itself cannot be the basis of children's correct choice of language. . . . . Emphasis is placed on the oral side of composition, partly because of its greater practical importance and partly because oral is naturally and normally the basis of written composition. In general, we write as we speak [p. vi].

The manual has three distinct divisions. The first, consisting of thirty-six pages, is entitled "General Suggestions" and treats such matters as the importance of oral composition, the child's choice of subject, the development of "sentence sense," the audience effect, and class criticism. The suggestions are frequently repeated in connection with the discussion of the second section, "Composition Work by Grades," in which the aims and methods of English instruction in each of the first three grades are separately set forth in a total of about one hundred pages. The last eighty pages are devoted to the details

[1] Nell J. Young and Frederick W. Memmott, *Methods in Elementary English.* New York: D. Appleton & Co., 1923. Pp. xiv+238.

of sixty-two "Language Games" to be employed in correcting the usual English errors of children, such as "is" and "are," "came," "did," and so on.

There is some ground for criticism in the last section. One notes a very great degree of similarity among the games which, in actual use, might defeat the ends of these motivating devices in the hands of any but the most skilful teacher. On the whole, however, the manual is excellent, both from the standpoint of typographical form and from the standpoint of the practical value of its content. It should prove of genuine worth to both new and experienced teachers.

WILLIAM A. BROWNELL

The personal factor in school administration.—An anonymously written biography[1] of unusual interest has recently been published which gives the story of the headmaster of an English secondary school for boys. The origin of the Oundle school, which is the one concerned, dates back of 1845. During part of its long history the school enjoyed a large enrolment and considerable prestige. Both had seriously declined, however, and were at an ebb point in 1892 when F. W. Sanderson was appointed headmaster. The regeneration of the school from an enrolment of less than one hundred to more than five hundred, together with the development of a modern curriculum and a group of buildings, is intimately tied up with the personality of Sanderson.

The book gives an excellent picture of the problems of the English schools for boys. The conflicting points of view of those adhering to the classical type of education and of those anxious for modern scientific education are clearly set forth. The slow stages of growth in realizing a scientific education are vividly pictured. However, the outstanding idea of the book is the contribution of a vigorous personality in overriding the obstacles to progress and in forcing an administrative program because of a conviction that such a program was essential.

More than one hundred pages of the book are devoted to a description of methods and experiments carried out in the Oundle school under Sanderson's direction. The discussion of the workshops and the engineering laboratory, as well as the methods of handling the sciences, will be of interest to any who are concerned with secondary-school work. Other subjects dealt with are history, biology, modern languages, and music. The series of nine addresses by Sanderson, which make up chapter vi, gives a very good statement of the aims and theories which characterize the modern developments in English secondary education.

The chief impression which remains with the reader, however, is the contribution which can be made by the life-investment of a vigorous personality in a single educational program. Sanderson of Oundle constitutes one argument for long tenure which is not counterbalanced by the kind of salary increases for which change of position is so common in America.

[1] *Sanderson of Oundle.* New York: Macmillan Co., 1923. Pp. vi+366. $4.00.

New pictured text in simplified economics.—The attempt to teach social and economic subjects at a lower level in the schools constitutes one of the most significant experiments of the present time. Since so many pupils leave school as soon as the legal age limit is reached, it is highly important that certain fundamental principles of living and of the prices of goods and wages be expressed in a form which can be grasped by pupils below the senior high school level. The typical textbooks in economics are entirely too difficult and were never intended for this purpose. An innovation in textbook-making which attempts to put this type of material within the reach of boys and girls in the public schools will, therefore, be of great interest. Such a book,[1] the second in a series of illustrated texts sponsored by the American Viewpoint Society, has recently been published.

The most striking feature of the book is the series of illustrations which take up approximately half of the space. These pictures are arranged in such order that they themselves tell a story. Through the pictures and the explanatory material under them, one may get a connected account of various economic processes in a manner which demonstrates a new possibility in visual education. In columns parallel with the illustrations, Dr. Johnson has given a simplified account of those economic principles which should be clear to every citizen. A section of questions and problems following the last chapter makes the book more suitable for teaching purposes.

The author's aim, as expressed in the following quotation from the foreword, is well matched by his achievement in preparing the book.

> In a democracy like ours it is of utmost importance that our boys and girls shall know, when they begin to earn a living, certain fundamental truths about the laws governing the rewards of capital, labor and enterprise, something about the relation of competition to market prices, about the services performed by banks and corporations, about the debt we owe the inventor and the machines he has given us.
>
> At the present time fully 90 per cent of our boys and girls leave school knowing absolutely nothing about what is called economics. That science has commonly been assumed to be not only a dismal one, but also one of great difficulty. Both of these assumptions are erroneous. Indeed, I hope that most of the readers of this book will find it interesting, easy of comprehension, and in some places even fascinating. . . . . Our country will certainly never be safe from disaster, or from industrial unrest and discontent, unless the people generally understand the simple fundamental principles determining the prices of goods and the wages of labor.

Teachers in the upper grades or in the junior high school will find the book worth careful examination.

[1] Joseph French Johnson, *We and Our Work*. New York: Boni & Liveright, Inc., 1923. Pp. 302.

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

BONSER, FREDERICK G., and MOSSMAN, LOIS COFFEY. *Industrial Arts for Elementary Schools.* New York: Macmillan Co., 1923. Pp. xii+492.

HARTMAN, GERTRUDE. *Home and Community Life.* New York: E. P. Dutton & Co., 1923. Pp. x+200. $3.00.

HINES, HARLAN CAMERON. *Measuring Intelligence.* Boston: Houghton Mifflin Co., 1923. Pp. xii+146.

MIRICK, GEORGE A. *Progressive Education.* Boston: Houghton Mifflin Co., 1923. Pp. x+314. $1.90.

NEUMANN, HENRY. *Education for Moral Growth.* New York: D. Appleton & Co., 1923. Pp. xii+384.

Reading Survey in the Public Schools of Newark, New Jersey. Newark, New Jersey: Board of Education, 1923. Pp. 56.

Report of the Survey of Accounting and Business Systems of the School Districts in New Jersey. Trenton, New Jersey: State Department of Public Instruction, 1923. Pp. 46.

RUSCH, LOUISE C. *The Socialized Recitation in English.* Chicago: Plymouth Press, 1923. Pp. 88.

School Building Survey, State of New Jersey, 1922. Trenton, New Jersey: State Department of Public Instruction, 1923. Pp. 128.

SELVIDGE, R. W. *How to Teach a Trade.* Peoria, Illinois: Manual Arts Press, 1923. Pp. 112. $1.00.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

BEARD, CHARLES A., and BAGLEY, WILLIAM C. *The History of the American People.* New York: Macmillan Co., 1923 [revised]. Pp. xvi+708.

COOKE, EDMUND VANCE. *Cheerful Children.* Chicago: Beckley-Cardy Co., 1923. Pp. 92. $0.70.

DONAHEY, WILLIAM, and BAKER, EFFIE E. *Teenie Weenie Land.* Chicago: Beckley-Cardy Co., 1923. Pp. 128. $0.70.

EDGERTON, EDWARD I., and CARPENTER, PERRY A. *A First Course in Algebra.* Chicago: Allyn & Bacon, 1923. Pp. viii+392+6.

FARIS, JOHN T. *Where Our History Was Made,* Book One. Newark, New Jersey: Silver, Burdett & Co., 1923. Pp. x+326.

GIDDINGS, THADDEUS P., EARHART, WILL, BALDWIN, RALPH L., and NEWTON, ELBRIDGE W. *Juvenile Music.* Music Education Series. Boston: Ginn & Co., 1923. Pp. 176. $0.76.

HUGHES, R. O. *A Text-Book in Citizenship.* Chicago: Allyn & Bacon, 1923. Pp. xxvi+748.

THOMAS, E. E. *In the North Woods of Maine.* Pioneer Life Series. Yonkers-on-Hudson, New York: World Book Co., 1923. Pp. viii+110.

WILLOUGHBY, GEORGE A. *Lesson Sheets: Elementary Electricity.* Edited by K. G. Smith. Peoria, Illinois: Manual Arts Press, 1923. 24 sheets. $0.45.

PUBLICATIONS OF THE UNITED STATES BUREAU OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

BRANOM, FREDERICK K. *A Bibliography of Recent Literature on the Teaching of Geography.* Worcester, Massachusetts: Department of Geography, Clark University, 1923. Pp. 22. $0.15.

ODELL, CHARLES W. *Provisions for the Individual Differences of High School Pupils.* University of Illinois Bulletin, Vol. XXI, No. 4. Educational Research Circular, No. 22. Urbana, Illinois: University of Illinois, 1923. Pp. 16.

Recent issues of the Bureau of Education:

Bulletin No. 27, 1923—*Hampton Normal and Agricultural Institute.*

Bulletin No. 30, 1923—*An Americanization Program.*

Bulletin No. 31, 1923—*Americanization in the United States.*

Bulletin No. 33, 1923—*Educational Hygiene.*

Bulletin No. 35, 1923—*List of Bulletins of the Bureau of Education, 1906–22.*

Bulletin No. 36, 1923—*Rural Education.*

Bulletin No. 38, 1923—*Main Streets of the Nation.*

Bulletin No. 39, 1923—*Consolidation and Transportation Problems.*

Bulletin No. 40, 1923—*Report of a Survey of the State Institutions of Higher Learning in Kansas.*

MISCELLANEOUS PUBLICATIONS

The Boy's Book of Verse. Compiled by Helen Dean Fish. New York: Frederick A. Stokes Co., 1923. Pp. xviii+406. $2.00.

MARTENS, FREDERICK H. *String Mastery.* New York: Frederick A. Stokes Co., 1923. Pp. x+360. $3.00.

MCSPADDEN, J. WALKER. *Stories from Great Operas.* New York: Thomas Y. Crowell Co., 1923. Pp. viii+394. $2.50.